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ABSTRACT OF STATISTICS

FOR
TAMIL NADU

VOLUME XXVI No. 3

FOR THE QUARTER ENDED SEPTEMBER 1981

**DEPARTMENT OF STATISTICS
MADRAS**

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PREFACE.

The Abstract of Statistics for Tamil Nadu presents current statistics on important select items in the form of a compendium. This publication is intended to serve as an authoritative book of reference for Government departments, statisticians, economists, planners, research scholars and others.

This issue presents statistics for the quarter ended June 1981 with comparative data so far available.

The chapters on "Economic Situation in Tamil Nadu" and "Select Economic indicators" afford an indication of the tempo of progress in our State.

A special feature of this issue is the inclusion of a report on "The Survey of Engineering Personnel of Tamil Nadu".

The co-operation extended by Heads of Departments in furnishing materials used in the compilation is gratefully acknowledged.

Comments and suggestions on this publication are welcome.

Madras :

Date: 5th December 1981.

V. RAMAMURTHY,

Commissioner of Statistics.

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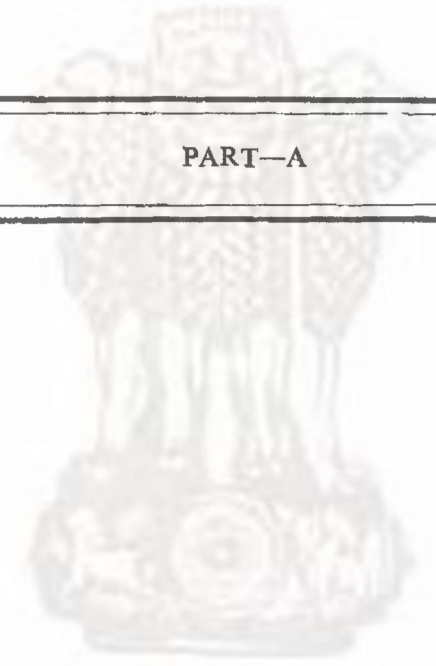
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PART—A



ECONOMIC SITUATION IN TAMIL NADU.

Rainfall.—The data on daily rainfall are collected every month in respect of 514 rain gauge stations spread over Tamil Nadu, maintained by the Revenue Department, the Public Works Department, the Forest Department, the Meteorological Department and the Southern Railway.

The State recorded excess rainfall during the current south-west monsoon period while it was deficient during the same period of the previous year. During the current period, the rainfall was excess in all the districts except South Arcot, Tirunelveli and The Nilgiris district where it was normal. Madras district alone had excess rainfall during the same period of the previous year. The districts of Chengalpattu, Salem, Dharmapuri, Coimbatore, Madurai, Tirunelveli and Kanniyakumari recorded normal rainfall while the remaining districts experienced deficient rainfall. In July 1981 and September 1981 the state received excess rainfall while it was normal in August 1981.

Water supply.—Water supply was just adequate in North Arcot, South Arcot, Thanjavur, Tirunelveli, Dharmapuri, Salem, Coimbatore, Periyar, Ramanathapuram and Kanniyakumar districts.

Water level.—Due to favourable south-west monsoon rains, almost all the reservoirs in the State had appreciable rise in the water level and the draught conditions are fading out.

Agriculture.—The total geographical area of Tamil Nadu according to village papers was 13.0 million hectares in 1978-79. Out of which, the nett area sown accounted for 6.3 million hectares, the area cultivable but not cultivated formed 2.4 million hectares and the uncultivable land was 4.3 million hectares. Out of the 6.3 million hectares of nett area sown 2.8 million hectares or about 45.0 percent was irrigated. The area sown more than once was 1.4 million hectares of which 0.9 million hectares or about 66.02 percent was irrigated.

Index numbers of Agricultural Economy.—The provisional indices (For 1979-80) of area under crops, Cropping intensity, yield, productivity per nett hectare, and the index of Agricultural Production have increased by 3.4 points, 3.2 points, 3.0 points, 7.8 points and 8.1 points respectively when compared with the previous year 1978-79. There is no change in the index of cropping pattern.

Coconut and arecanut.—According to the provisional estimates of Coconut and Arecanut survey the estimated area under Coconut in Tamil Nadu for 1979-80 was 1,14,860 hectares and its total production was 1,180.10 million nuts. When compared with the previous year, the estimated area and production of coconut showed an increase of 4.89 percent and 5.06 percent respectively.

The estimated area under Arecanut was 4,280 hectares with the total production of 2,992 tonnes of cured arecanuts registering an increase of 2.88 percent and 2.82 percent respectively over the previous year.

Minor crops.—According to the final estimates, the area under Onions, Potato, Chillies and Tapioca in Tamil Nadu during 1979-80 was 21,728, 10,750, 97,369 and 57,603 hectares respectively, while the production of these crops was 2,36,493, 80,960, 61,388 and 15,79,810 tonne.

Crop prospects.—Water supply for irrigation was adequate in all the districts except Chengalpattu, North Arcot and Ramanathapuram districts.

Ploughing and sowing operations were in progress in all the districts except Pudukkottai, Tirunelveli and The Nilgiris. Ploughing and sowing activities for cultivation of rainfed crops were in progress in certain parts of South Arcot, Coimbatore, Pudukkottai and Ramanathapuram districts.

Transplantation was completed in the districts of Dharmapuri and Tirunelveli. Transplantation of Paddy was in progress in the districts of South Arcot, North Arcot, Coimbatore, Pudukkottai, Thanjavur and Madurai.

The condition of the standing crops was fair in all the districts except Madurai.

Paddy harvest was reported to be fair in the districts of South Arcot, Thanjavur, Ramanathapuram, Coimbatore, Kanniyakumari and Tirunelveli. Harvest of Cumbu and Ragi was also reported to be fair in the districts of South Arcot, Salem, Coimbatore and Ramanathapuram. The outturn of sugarcane was reported to be normal in the districts of Salem and Ramanathapuram. The groundnut yield was normal in South Arcot and Madurai districts.

Industries.—The industrial Production under the registered sector in Tamil Nadu decreased by 9.7 per cent or 20.1 points during the quarter ended June 1981 since the average general Index decreased from 205.3 for the quarter ended March 1981 to 186.2 during the quarter ended June 1981.

The decrease in the general Index was mainly due to a fall in the manufacturing sector amounting to 10.8 percent.

Considerable increases in Production were noticed in respect of Refined oil, Tea (Processed), Tyres, Transformers and synthetic gem stones.

However significant decreases in Production were also noticed in respect of sugar (refined) High speed diesel oil, Ammonia, Urea, Superior Kerosene, Pesticides and Non-ferrous metal.

Handloom.—The production of handloom cloth in Tamil Nadu during the quarter ended June 1981 was estimated at 173, 635, 000 metres as against 170,568,000 metres during the previous quarter registering an increase of 1.80 percent.

Considering the rate of increase during the quarter under review and the previous quarter it is presumed that the industry is well set in motion during the year.

Joint Stock Companies.—During the quarter ended September 1981, 20 public and 165 private companies were newly registered as against 12 public and 140 private companies during the previous quarter.

The total authorised capital of newly registered public and private companies during the quarter ended September 1981 was Rs. 3,431.64 lakhs as against Rs. 1,928 lakhs during the previous quarter.

During the quarter under review 4 companies went into liquidation where as no company went into liquidation during the previous quarter.

Electricity.—During the quarter ended September 1981 the generation of electricity was 2,070 Million units as against 1,471 million units during the previous quarter.

The total consumption of electricity decreased from 2,149 million units during the quarter ended March 1981 to 2,005 million units during the quarter ended June 1981.

During the quarter ended September 1981 no town, or village, or hamlet was electrified and 6,502 agricultural pumpsets were energised.

Transport.—During the quarter ended June 1981 the total number of newly registered motor vehicles in Tamil Nadu was 11,789 as against 12,275 during the previous quarter.

Index Numbers of Wholesale Prices in Tamil Nadu (1970-71=100).—During the quarter ended 30th September 1981, the general Index Number of wholesale prices in Tamil Nadu advanced by 3.10 per cent to 274.30 from 266.06 in the previous quarter.

Consumer Price Index Number for Industrial Workers (Base 1960=100).—During the quarter ended September 1981 Consumer Price Index Number advanced in all the Seven centres in Tamil Nadu when compared with the index for June 1981.

Consumer Price Index Numbers for Rural Tamil Nadu (1970-71=100).—During the quarter ended 30th September 1981 the Consumer Price Index Number for selected essential items in rural Tamil Nadu moved up by 5.79 per cent to 271.51 as against 256.65 in the previous quarter.

Consumer Price Index for Urban Non-Manual Employees (Base 1960=100).—During the quarter ended September 1981 the Consumer Price Index Number for Urban Non-manual Employees advanced in all the three centres in Tamil Nadu.

Index Numbers of Parity : (1954-55=100).—During the quarter under review the index of Prices received by the farmer moved up by 1.43 per cent to 637 from 628 in the previous quarter and Index of prices paid by the farmer also increased by 3.93 per cent to 820 from 789 in the previous quarter. The index of parity receded to 78 from 80 in the last quarter registering a fall of 2.50 per cent.

Trade.—The total value of foreign trade through the ports in Tamil Nadu during the quarter ended 31st March 1981 was of the order of Rs. 623.3 crores of which exports accounted for Rs. 204.8 crores and imports Rs. 418.5 crores. As compared to the corresponding quarter of the previous year there was an increase of 10.9 per cent in Exports and 14.2 per cent in Imports.

Employment.—The total number of employment seekers on the Live Register of Employment Exchanges in Tamil Nadu as at the end of the quarter ended 30th September 1981 increased by 8.12 per cent as compared with the previous quarter. The number of persons registered with the Employment Exchanges during the quarter under review increased by 41.00 per cent, compared with the previous quarter. The placements made through the Employment Exchanges in the State during the quarter ended 30th September 1981 registered an increase of 8.80 per cent when compared with the previous quarter.

Local Bodies.—As on 31st March 1979 there were 2 corporations, 4 special grade, 10 selection grade, 27 first grade, 34 second grade, 24 Third grade Municipalities and 8 Township Committees in the State.



SURVEY OF ENGINEERING PERSONNEL OF TAMIL NADU, 1979-89.

Section I.—Engineering Manpower is an important determinant of the pace and direction of the economic development of a nation. The long lead time and high cost involved in the preparation of this high level manpower presupposes advance planning for its preparation and utilisation. The present study is an attempt in this direction to estimate the stock demand and position of engineering personnel of Tamil Nadu for the next 10 years 1979-89.

Objectives of the Study.—The objectives of the present study are (i) to assess qualitatively and quantitatively the current stock of engineering manpower under the categories (a) Engineering Diploma holders (b) Engineering Degree holders and (c) post graduate engineering degree holders and incidentally.

(ii) to assess the demand for engineering personnel by occupation and by levels of education.

(iii) to review the employment and unemployment situation of engineering personnel.

Coverage.—The study covered all the engineering personnel with educational levels of diploma, degree, post-graduate degree and diploma in engineering and technology including Architecture.

Source of Data and Method of Study.—The studies so far undertaken by different agencies on engineering manpower were confined to the estimation of the total demand for engineers for the economy as a whole following what is called the 'Global approach'. The IAMR in their report on "Engineering occupations in the Fifth Plan" have made a pioneering venture to estimate the requirement of engineers by occupation and by level of education following the "segmental approach". This approach has been followed in this study to estimate the demand for engineering personnel by occupation and by level of education in Tamil Nadu.

The segmental approach followed for the estimation of demand for engineers warrants enormous data on engineering employment in each sector of the economy, sectoral outputs growth rates, etc. The only source of data on engineering employment is the report on Occupational pattern of employees, issued by the Directorate of employment and Training. The limitations of these data and the assumptions made are discussed in section 5 "Demand for Engineers". On the supply side, data on intake and out-turn of students in different courses in engineering were required. These data were collected from the Engineering Colleges and Polytechnics. The data available in the G-series tables of the Census 1971 pertaining to the Degree holders and Technical personnel were also utilised to the extent possible.

It must be recognised however that there is a great disparity between our felt needs for precise information for this ambitious programme and the actual state of available data. Hence as B. R. Morris points out, "Manpower plans can never be blue prints or even goals in any rigid sense. They demand consideration as rolling programme", as an attempt to move a given manpower situation, the exact design of which is itself subject to constant discussion".

In a study of long term requirement of engineers "absolute precision may not be attached to numerical values in view of the limitation of data, methodologies, complexity of system and unpredictability of the future." The estimates, like all manpower estimates, will serve as a broad indicator of the trend in demand and supply of engineers and technologists so that development of technical education during the next plan period may be planned on a more realistic basis in terms of introducing new courses, diversifying curricula and syllabi and other educational and training programmes.

IAMR Report No. 1/74 "Engineering Occupations in the fifth Plan."

* R. Morris An appreciation of Manpower planning, Manpower planning edited by D. J. Bertholomew

SECTION-2

ENGINEERING EDUCATION IN TAMIL NADU.

Tamil Nadu occupies a significant place among the states in the Southern Region. It accounts for about 36 per cent of the total intake capacity in engineering degree courses and about one-third of the intake capacity in engineering diploma courses in the Southern Region. At present there are 12 engineering colleges 37 polytechnics in Tamil Nadu besides, one school of Architecture and planning and one Agricultural engineering college in Tamil Nadu which offer graduate and post graduate degree courses in various engineering subjects. Among them special mention may be made of the Indian Institute of Technology (I.I.T.), Madras an institute of national importance the Madras Institute of Technology (MIT), Madras and the Regional Engineering College (R.E.C.), Tiruchirappalli.

Of the 37 polytechnics, 30 polytechnics offer courses in engineering subjects. The remaining seven institute offer courses on special subjects like printing technology, catering technology, textile technology, etc. The list of polytechnics includes three women polytechnics at Madras, Madurai and Coimbatore which offer courses in civil, Electronics, Commercial Practice Architecture Assistantships, costume design and Dress-making.

In addition to the conventional course like civil, mechanical and electrical, the engineering colleges offer courses in different new branches of engineering like electronics, aeronautics, automobile engineering and technological courses in textile technology, leather technology, Chemical technology, Instrumentation technology, etc. Polytechnics also have diversified their courses which cover new courses like film technology, catering technology chemical technology etc. The sanctioned intake capacity and the actual intake of student in the engineering colleges and polytechnic for various Branches of engineering in Tamil Nadu are given in table 1 below.

TABLE NO. 1.

Sanctioned and actual intake of students in Engineering Degree and Diploma Courses by Speciality—1978.

Serial number and Speciality.	Sanctioned intake.		Actual intake.	
	Men Institutions.	Women Institutions.	Men Institutions.	Women Institutions.
(1)	(2)	(3)	(4)	(5)
<i>Degree Courses.</i>				
1 Civil	657	..	680	..
2 Mechanical	622	..	713	..
3 Electrical	584	..	652	..
4 Electronics and Communication ..	160	..	299	..
5 Chemical	226	..	186	..
6 Metallurgy	60	..	112	..
7 Architecture	20	..	19	..
8 Textile	80	..	68	..
9 Automobile	30	..	36	..
10 Aeronautical	29	..	31	..
11 Leather	15	..	22	..
12 Production Engineering .. .. .	..	..	106	..
13 Industrial Engineering .. .. .	..	..	20	..
14 Instrument Technology	30	..	40	..
15 Naval Architecture	12	..	11	..
Total	2,515	..	2,995	..

TABLE -1—*Contd.*(ii) *Diploma Courses.*

1 Civil	1,186	90	1,421	85
2 Mechanical	1,491	..	1,723	..
3 Electrical	1,261	..	1,535	..
4 Electronics and Communication .. .. .	..	60	..	..
5 Commercial Practice	140	90	156	108
6 Textile Technology	100	..	143	..
7 Chemical Technology	60	..	..	..
8 Printing Technology	95	..	90	..
9 Catering Technology	60	..	80	..
10 Leather Technology	15	..	37	..
11 Agriculture .. .. .	..	..	24	..
12 Cinematography .. .. .	..	..	5	..
13 Sound Engineering & Sound Recording .. .. .	..	..	5	..
14 Film Processing .. .. .	..	..	5	..
15 Fisheries and Navigation	30	..	15	..
16 Sugar Technology .. .. .	..	..	20	..
17 Polymer Technology .. .. .	..	..	24	..
18 Machine tool maintenance	15	..	20	..
19 Instrument Technology .. .. .	..	15	..	21
20 Architectural Assistant .. .. .	..	15	..	10
21 Costume Design and Dress making .. .. .	..	30	..	27
22 Cosmetology .. .. .	..	..	..	7
23 Library Science .. .. .	..	30	..	..
24 Machine design and drafting .. .. .	..	..	..	20
25 Total	4,453	330	5,402	448

Source : Report on the facilities for Technical Education in the Southern Region 1978
Ministry of Education, Government of India, Southern Regional Office, Sastri Bhavan, Madras-6.

The Engineering Colleges and Polytechnics also award post graduate degree and diploma and post-diploma respectively in different special branches of engineering. The I.I.T., Madras which is the institute of highest learning engineering in the state and some other post graduate engineering colleges in the State award Research and Doctorate degrees in engineering and in certain fields of applied sciences. The details of intake capacity under various branches of post graduate degree and post graduate diploma courses in engineering colleges and post-diploma courses in Polytechnics are given in Table 2 below :—

TABLE—2.

Sanctioned and actual intake of students in post-graduate degree and diploma courses in Engineering Colleges and post Diploma in Polytechnics—1978.

<i>Serial number and speciality.</i>								<i>Sanctioned intake.</i>	<i>Actual intake.</i>
(1)								(2)	(3)
<i>(i) Post-Graduate Courses</i>									
1	Civil	..	..	..	..	..	..	118	138
2	Mechanical	..	..	..	..	..	..	108	176
3	Electrical	..	..	..	..	..	..	92	154
4	Chemical Engineering	..	..	..	..	..	..	58	78
5	Electronics	..	..	..	..	..	..	10	12
6	Metallurgy	..	..	..	..	..	..	21	27
7	Textile	..	..	..	..	..	..	20	11
8	Aeronautics	..	..	..	..	..	..	31	13
9	Leather	..	..	..	..	..	..	5	3
10	Town and Country Planning	..	..	..	..	..	..	20	13
11	Automobile	..	..	..	..	..	..	..	6
12	Instrument Technology	..	..	..	..	..	..	..	8
13	Applied Mechanics	..	..	..	..	..	..	21	21
14	Computer Science Technology	..	..	..	..	..	..	21	29
15	Industrial Engineering	..	..	..	..	..	..	21	18
16	Engineering Management	..	..	..	..	..	..	..	17
17	Total	..	..	..	..	..	..	546	724
<i>(ii) Post Graduate Diploma Course.</i>									
1	Traffic Engineering	..	..	..	..	..	..	5	1
2	Operations Research	..	..	..	..	..	..	16	7
3	Electrochemical Engineering	..	..	..	..	..	..	10	3
4	Industrial Design	..	..	..	..	..	..	10	..
5	Television Engineering	..	..	..	..	..	..	8	8
	Total	..	..	..	..	..	..	49	19

TABLE 2- *contd.*(iii) *Post Diploma Course.*

1 Automobile Engineering	..	..	..	..	..	..	20	9
2 Mechanical Automobile	..	..	..	..	..	..	20	14
3 Air Conditioning and Refrigeration	..	..	..	..	..	..	50	50
4 Metallurgy	..	..	..	..	..	..	50	50
5 Tool Design	..	..	..	..	..	..	25	25
6 Welding Technology	..	..	..	..	..	..	15	18
7 Diesel Traction	..	..	..	..	..	..	15	3
8 Petro Chemicals	..	..	..	..	..	..	20	2
9 Town and Country Planning	..	..	..	..	..	..	20	8
10 Medical Equipment and Technology	..	..	..	..	..	..	10	10
11 Television Engineering	..	..	..	..	..	..	15	7
Total	..	..	..	..	..	..	260	196

NOTE.—As regards Post-Graduate Diploma Courses the figures under column No. 3 represents the proposed intake for the year as no sanctioned intake is available.

Source :—Report on the facilities for Technical Education in the Southern Region 1978. Ministry of Education, Government of India Southern Region Office, Sastri Bhavan, Madras-6.

SECTION - 3

EMPLOYMENT SITUATION OF ENGINEERING PERSONNEL

Unemployment among Engineers.—Engineering Manpower has been facing serious unemployment problem since late sixties as is evident from the Live Register maintained by the Employment Exchanges. It should however be noted that the employment exchange data suffer from two defects : (i) the unemployment figures include (a) employed persons who register their names to better their employment prospects and (b) full time students who want to gain seniority by registering in advance so that they would have a better chance of getting employment as soon as they finish their courses of study and (ii) registration with employment exchanges being voluntary not all the unemployed persons seek the help of the employment exchange for securing employment. However the employment exchange is the only source of serial data on unemployment which serve as an indicator of the trend of unemployment of different categories of manpower.

According to the Live Register figures, as many as 2403 engineering degree holders were unemployed in 1971. It rose to 2748 in 1972 and then started declining till 1975, when it touched all time low of 1868. (Table 3). It again started rising from the next year onwards and touched 3,000 mark (3,004) in 1977. The following year marked an improvement in the sense, the figure came down to 2285. The last year (i.e. 1979) again witnessed a rise in the number of unemployed Engineering Graduates to 2,362.

As regards engineering Diploma holders the situation is comparatively worse. In 1971 the figure of unemployed engineering diploma holders stood at 4,734 (Table 4). During the next two years, the figures gradually decline to 3,213 in 1973. It however started rising thereafter. In the first two years it rose slowly, but from 1976 onwards it rose steeply and reached 8701 in 1979 which is nearly double the figure of 1971.

A deeper probe into the different specialities in respect of the unemployed engineering degree holders reveals that the four main specialities of Civil, Mechanical, Electrical and Chemical Engineering constitute the bulk of the unemployed, its preparation ranging from 80 to 92 percent. Another important speciality where unemployment is significant is Electronics and Telecommunication. It may be noted that the number of unemployed degree holders started receding from 1978 in respect of Civil Engineering and from 1977 in respect of Electrical Engineering. Similar trend is not noticeable in the case of Chemical Engineering. As regards Mechanical Engineering the number of unemployed which stood at 1032 in 1974 gradually declined to 528 in 1975. From the next year onwards, it started rising and reached a figure of 1012 in 1979, a situation almost similar to the one witnessed in 1971. As regards Chemical Engineering, the upward trend persisted up to 1977.

TABLE No. 3.

Number of Un-employed Degree Holders in Engineering and Technology according to the Live Register of Employment Exchanges.

Serial number and speciality.		(As on 31st December).									
		1971	1972	1973	1974	1975	1976	1977	1978	1979 (30th September 1979)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
1 Civil	
2 Mechanical	
3 Electrical	
4 Chemical	
5 Metallurgical	
6 Mining	
7 Electronics and Telecommunication	
8 Automobile	
9 Leather Technology	
10 Textile Technology	
11 Architecture	
12 Aeronautics	
13 Instrument Technology	
14 Food Technology	
15 Production Engineering	
16 Others	
Number		2,403	2,748	2,732	2,068	1,868	2,577	3,004	2,285	2,362	
17 Total Index		100.0	114.4	113.7	86.5	77.7	1,072.2	125.0	95.1	98.03	

TABLE No. 4

Number of un-employed Diploma holders in Engineering and Technology According to Live Register of Employment Exchanges.

Serial number and Speciality.		1971	1972	1973	1974	1975	1976	1977	1978	1979 (30th September 1979.)
		(As on 31st December)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1 Civil
2 Mechanical
3 Electrical
4 Chemical
5 Automobile
6 Printing Technology
7 Leather Technology
8 Textile Technology
9 Sound Engineering
10 Fisheries Technology
11 Mining
12 Electronics
13 Sugar Technology
14 Film Technology
15 Instruments Technology
16 Air-conditioning and Refrigeration
17 Architecture
18 Prosthetics and Orthotics
19 Total Index No.

A similar probe in to the unemployment figures of diploma holders reveals that the three main branches of Civil, Mechanical and Electrical constituted about 95 per cent of unemployed. It is distressing to note that the figures of unemployment in respect of all these three branches of engineering which witnessed a slight declining trend till 1975, started rising rapidly thereafter depicting an alarming picture. As regards the other categories of the diploma holders, the unemployment position remained more or less unchanged over the period except in the case of Printing Technology and Electronics which showed a steep rise.

Employment Pattern.—The employment status of almost all categories of educated manpower is generally “employee” or wage earner,† no exception to this general pattern. According to the G series tables of the Census 1971 (1) self-employed engineering degree and diploma holders formed only 7.6 per cent and 4.1 per cent of the employed stock of respective categories. The rest (92.4 per cent of degree holders and 95.9 per cent of diploma holders) were employees, trainees and apprentices or wage earners. A recent study of the engineering graduates and diploma holders conducted by this Cell (2) revealed more or less a similar trend in the employment pattern of engineering personnel. According to this study, 95 per cent of engineering degree holders and 87 per cent of diploma holders were employees.

The G-series tables of the Census, 1971 give the distribution of degree holders and Technical personnel other than self-employed persons by types or organisation of present employment. According to this distribution, 8.5 per cent of engineering graduates and 5.2 per cent of engineering diploma holders were in educational institutions. Manufacturing industry absorbed about 25.6 per cent of degree holders and 28.9 per cent of diploma holders. Other Government Organisations have in its employ one-half of the total employed degree and diploma holders in engineering and technology. The table below gives the percentage distribution of degree and diploma holders in engineering and technology by type of organisation of present employment —

(2) Report of the survey to assess the pattern of employment and unemployment position of engineers in Tamil Nadu Manpower Cell Department of Statistics, Madras-1975.

† Engineering Man power is.

(1) Census of India 1971, series - 1, India Part VII.

(i) Degree holders and Technical Personnel Special (Tables).

TABLE 5.

Percentage distribution of Engineering Degree and Diploma Holders by Type of Organisation of Present Employment—1971.

Serial number and type of organisation.	Degree and above.		Diploma.		Total.	
	(1)	(2)	(3)	(4)	(5)	(6)
1. Educational Institutions.—						
(i) University, Colleges, etc.		6.0	0.6			2.7
(ii) Polytechnics:		2.2	3.0			2.7
(iii) Schools		0.2	1.6			1.0
(iv) Private Coaching:—						
Institutions.. .. .		0.1	N			0.1
Sub total - I		8.5	5.2			6.5
2. Industry —						
(i) Public Sector		7.3	9.8			8.8
(ii) Private Sector		18.3	19.1			18.8
Sub-total - II		25.6	28.9			27.6
3. Natural resources		5.3	6.5			6.0
4. Social and Developmental Organisation		0.5	1.1			0.9
5. Other Organisations		49.5	50.6			52.2
6. Others		10.6	7.7			8.8
Total		100.0	100.0			100.0

N : Negligible.

According to G-series tables of Census 1971, about 72 per cent of employee engineers (71.6 per cent of degree holders and 72.5 per cent diploma holders) were in the Public Sector and the remaining 28 per cent (28.4 per cent of degree holders and 27.5 per cent of diploma holders) were in the Private Sector.

The G-series tables do not present the data according to the usual industrial classification followed in the General Census. The economic tables of Census 1971 (Part 11 B (ii)) which give such classification of workers by industry have not yet become available either for all India or for Tamil Nadu. Provisional results of Census 1971 for All India give the Classification of workers only for urban areas. Similar data for Tamil Nadu are available only for Census 1961. According to these data, engineering personnel are engaged in general proportions in "other services" Next comes "Manufacturing" Non household, followed by "Construction". The table below gives the percentage distribution of engineering degree and Diploma holders by industry.

TABLE 6

Percentage distribution of engineering degree and diploma holders by industry.

<i>Serial number and Industry.</i>	<i>Tamil Nadu (Census 1961)</i>			<i>India (Census 1971)</i>		
	<i>Diploma.</i>	<i>Degree.</i>	<i>Total.</i>	<i>Diploma.</i>	<i>Degree.</i>	<i>Total</i>
1 Cultivators	0.5	0.3	0.4	0.7	0.1	0.4
2 Agricultural Labourers .. .. .	..	..	..	0.1	0.1	0.1
3 Livestock Forestry, Fishing, etc. .. .. .	..	..	..	1.0	0.9	1.0
4 Mining, Quarrying, etc... .. .	4.0	7.3	5.2	1.0	1.8	1.4
5. <i>Manufacturing Industry :—</i>						
(i) Household Industry	N	N	N	0.2	0.4	0.3
(ii) Other than household industry	25.0	16.7	22.0	25.9	33.2	29.3
6 Construction	11.3	26.5	16.8	8.5	10.7	9.5
7 Trade and Commerce	4.7	5.5	5.0	6.1	9.4	7.6
8 Transport, storage and communication	8.2	6.0	7.5	5.3	5.7	5.4
9 Other Services	46.3	37.7	43.1	51.2	37.7	45.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

N=Negligible.

The decennial census does not give similar results for rural areas. For rural areas, the classification of population by educational levels is frozen and all persons with educational qualification of "degree and above" are classified as a single item, with the result the rural component of either the total number of the industrial distribution of individual categories of educated manpower with educational qualifications of "degree and above" in including technical and professional personnel are not obtainable. Consequently, it is not possible to have a full picture of the pattern of employment of individual categories of high level manpower for the economy as a whole. The G. series tables did cover the entire economy, but as mentioned earlier it did not present the data according to the usual industrial classification of workers and non-workers.

SECTION 4.

4.1 Supply of engineering personnel sources of supply.—The main sources of supply of engineering personnel is the outturn from engineering colleges and Polytechnics. Engineering manpower has, in the context of technological developments in the country high mobility. Hence any attempt to estimate the supply for a region or a state should necessarily take this fact into account. While in-migration increases the stock, but migration has a deflating effect on the existing stock of manpower. A study and by this manpower cell, of the recently passed out engineering degree and diploma holders has revealed that about 32 per cent of graduates and 16 per cent of diploma holders have migrated to other states and foreign countries. But information is not available about the extent of in-migration of engineering personnel in to Tamil Nadu. Being an industrially developed State, it is reasonable to assume that flow of engineering personnel in to the State would be equally significant, if not more, than the outflow of engineering personnel from the State. In-depth studies are necessary to determine the quantum and nature of in-migration of engineers to this State. In the absence of appropriate data, the net effect of migration on the stock of engineers in the State could not be assessed. It has been assumed in this study that the net effect of in and out-migration of engineers on the stock, if any is negligible.

Estimation of nett outturn.—For the purpose of estimation of nett out-turn of engineering manpower, agricultural engineering faculty offered by the Agriculture Engineering College, Coimbatore has not been taken into account, of the 12 Engineering College and the School of Architecture in Tamil Nadu, the Indian Institute of Technology, Madras, the Regional Engineering College, Tiruchirappalli and the Madras Institute of Technology, Madras take only about fifty per cent of the students belonging to Tamil Nadu. The remaining 50 per cent of the seats are allotted to students belonging to other states and Foreign Countries. Necessary correction factor has been worked out and applied to the outturn of graduate and post-graduate courses in different branches of engineering in these three colleges to arrive at the nett outturn pertaining to Tamil Nadu. The proportion of students belonging to other States and foreign countries in degree courses in Architecture offered the School of Architecture and in leather technology offered by the A.C. College of Technology was found to be significant and necessary correction factors have been applied to arrive at the nett outturn in these courses.

The remaining engineering colleges take generally students belonging to Tamil Nadu. The proportion of students belonging to other States and foreign countries studying in these colleges is negligible, being of the order of 1.6 per cent of the total intake. Similar information about the students of Tamil Nadu seeking admission in Engineering Colleges in other States is not available. It may however be reasonably assumed that more or less same proportion of students will seek admission in other States and foreign countries.

In the case of engineering diploma courses, a similar picture has revealed that the number of students of other States and foreign countries studying in the Polytechnics in Tamil Nadu constituted about 2 per cent of the total intake. In the absence of such data on students studying in other States, it was been assumed that an equal number of students of Tamil Nadu would seeking admission in the Polytechnics in other States.

Projection of intake and outturn.—The actual intake of students in the engineering degree courses during the recent years was more or less equal to the sanctioned intake while the actual intake of Students in Polytechnics was higher than the sanctioned intake. The State's Draft Plan for the period 1978-83 (1) envisages no increase in the intake of students in engineering degree courses. It has therefore been assumed that the level of intake prevailed during 1978-79 in various branches of engineering in the degree courses will continue up to 1982-83. For the remaining period of 1984-89, the intake has been projected by fitting the data for the years 1970-71 to the curve of the type $E = ae^{bt}$ (2).

As regards Diploma and Post Graduate Courses, no curb on the increase in intake was contemplated in the Draft Plan. Provision has actually been made in the plan for starting 5 new polytechnics, three for men and two for women, besides diversification of courses and opening of women wings in 5 men polytechnics. The intake of students in diploma courses in Polytechnics and the post graduate courses in Colleges have been projected up to 1988-89 on the basis of the trend in the actual intake of students in these courses observed during the years 1970-71 to 1978-79 by fitting the data to the curve of the type adopted for projecting the intake in the degree courses.

(1) "Draft Five-Year plan 1978-83—Tamil Nadu" State Planning Commission, Madras-5.

(2) 'E' is intake of students, 't' the time variable in years, 'e' the exponential and 'a' and 'b' are parameters to be determined.

An essential pre-requisite for estimation of the outturn from the projected intake is the data on students wastage rate. The available data on student wastage engineering colleges are not consistent. A recent study made by this Cell (1) showed a student wastage of 7.18 per cent for degree courses. The IAMR study (2) made in 1965 revealed a student wastage of 19.3 per cent for 5 years courses. A recent study of the IAMR (3) gave a student wastage of 17.6 per cent for 5 year course. In view of the divergence in the available data, the "average pass percentage" of 85.5 per cent (resulting in a wastage rate 14.5 per cent based on the intake of students during the years from 1970-71 to 1974-75 and the corresponding outturn during the period 1974-75 to 1978-79) was adopted to arrive at the estimated outturn of student in degree courses. The sub-group on Man power set up by the Planning Commission Government of India (4) assumed a wastage rate of 18 per cent for degree courses and 40 per cent for diploma courses.

Such large difference in the estimates as regards student wastage rates worked out by different agencies is not seen in the case of diploma courses. The study made by this Cell revealed a student wastage of 39.7 per cent. Of the two IAMR studies referred to above the first study gave a wastage rate ranging from 41.6 per cent for Central region to 21.1 per cent for the Eastern region, while the second study indicated a wastage rate of 35.3 per cent, the rates for individual batches of students varying from 31.4 per cent to 40.3 per cent. The wastage rate of 39.7 per cent has been adopted for estimating the future outturn of students in diploma courses, as this rate is based on the more recent study with a wider coverage of polytechnics in Tamil Nadu. This rate is also very close to wastage rate adopted by the sub-group on Man power.

Estimation of Speciality-wise outturn of students for the period of 1979-89.—For building up the stock of engineers by different branches of engineering, data on speciality-wise student wastage rates are necessary. As no such data are available, the speciality-wise estimates of outturn for different courses of engineering have been arrived at from the total estimated on the basis of the outturn of students in these specialities for the years 1977-78 and 1978-79.

Stock of Engineering Personnel.—The main hurdle in building up the stock is the lack of a proper base upon which the estimates could be built. The G. Series tables of Census 1971 pertaining to the Degree Holders and Technical Personnel give detailed distribution by educational levels both at all-India and State levels. But the response rate is very poor. The response rates for the data at all-India level have been estimated and given for different categories. No such response rates are available for the State level data. As such these figures could not be taken as a base for building up the stock for Tamil Nadu.

The decennial census gives detailed educational classification of population for urban areas only such data on educational composition of population is not available for rural areas. The entire group with educational qualifications of degree and above have been clubbed together, with the result, the number of engineering graduates in the rural areas is not obtainable.

The census data have however been utilised to build up the stock of engineering degree and diploma holders in the State making certain assumptions, as no other reliable source of data on a comprehensive basis is available. The Economic Tables Part II-B (ii) pertaining to Tamil Nadu which give the educational composition of the population are not yet published. The available data have therefore been called out from the records of the Directorate of Census Operations and utilised for the study.

The number of engineers with degree and above in the rural areas has been arrived at from the total group of "degree holders and above" assuming that the proportion of engineers with degree and above in the rural areas will be same as that observed for the urban areas. The total stock of engineering graduates in the base year (i.e. 1971) has been arrived at by adding the estimated component for the rural to the stock for urban areas. As regards Engineering diploma holders no such difficulty arises. The category "Technical diploma holders" has been taken to represent the engineering diploma holders. Data for this category are available for urban as well as rural areas and the sum of these two components has been taken to represent the total stock of engineering diploma holders in 1971. These estimates are very close to the provisional estimates arrived at by the SCIR (1). The speciality wise break-up of the stock for degree and diploma holders have been arrived at on the basis of the outturn of students in various branches of engineering for the period from 1953 to 1971 and these estimates have been projected up to 1988-89 on the basis of the estimated outturn for these years.

(1) Report on the student wastage in professional and Technical Colleges and Polytechnics in Tamil Nadu 1975.

Manpower Cell, Department of Statistics, Madras.

(2) IAMR working paper No. 1365, Manpower group survey (Engineering), student wastage in Engineering Educational institutions.

(3) IAMR working paper No. 4/77, student wastage in Engineering Colleges (1961-67).

(4) Technical Manpower in the seventies, Report of the Sub-group of Manpower, Ministry of Home Affairs G. O. I.

The IAMR has adopted an attrition rate of 2 per cent per annum for degree holders and 1.1 percent per annum for diploma holders for estimating the stock of engineers (2) on the basis of their report on Attrition Rate for Engineering Graduates and diploma holders". The same rates have been and opted for building up.

the year-wise stock of engineering personnel. The estimates of gross stock of engineering degree and diploma holders for the years 1978-79, 1982-83 presented in Table-7. The stock is inclusive of the stock of engineer having post graduate degree including doctorate degrees, Post Graduate diploma and Post diploma.

(1) Technical Man power-bulletin of the Decision for Scientific and Technical Personnel, CSIR, April 1973.

(2) IAMR Report No. 1/74, Engineering Occupation in the Fifth Plan.

Stock of engineers having Post Graduate degree Post Graduate diploma and Post diploma.— According to the G. Series tables of the Census 1971, the stock of engineers having post graduate degree and Post graduate diploma formed about 5.4 per cent of the total stock of engineering personnel, But these tables do not provide information on speciality-wise break-up of the stock. An attempt has been made in this study to build up speciality-wise stock of engineers having post-graduate degree post graduate diploma and Post-Diploma on the basis of the outturn of students from engineering colleges and Polytechnics. The data on speciality-wise intake and outturn of students in these courses have been collected from all the engineering Colleges and Polytechnics from the inception of these courses. On the basis of these data, the stock of engineers in those categories have been built up upto 1978-79 and then projected upto 1988-89, in the basis of the projected intake and outturn of students in these courses. The estimated stock for 1978-79, 1982-83 and for 1988-89 are given in table 8 and 9,

Stock of engineers by speciality and by educational levels. The total stock of engineering degree and diploma holders given in table 7 includes engineers having post graduate and post diploma qualifications. The stock of engineers degree and diploma holders have been arrived at by deducting the estimated stock of engineers having post-graduate degree and diploma and Post-diploma from the total stock of engineering degree and diploma holders respectively. The estimates of specially wise stock by educational levels for the years 1978-79, 1982-83 and 1988-89 are presented in table 10.

TABLE 7

Stock of Engineering Degree and Diploma Holders by speciality

(No)

Serial number and speciality	1978-79			1982-83			1988-89		
	Degree and above	Diploma holders	Total	Degree and above	Diploma holders	Total	Degree and above	Diploma holders	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Civil	5,344	10,890	16,234	6,539	13,820	20,359	8,433	19,164	27,597
2. Mechanical	8,795	17,476	26,271	10,199	22,719	32,918	12,203	32,004	44,207
3. Electrical	5,094	10,209	15,303	5,362	12,630	17,992	5,754	17,066	22,820
4. Electronics and Communication	1,817	519	2,336	2,440	779	3,219	3,319	1,245	4,564
5. Chemical	2,362	426	2,788	2,705	515	3,220	3,196	678	3,874
6. Leather	133	294	427	160	374	534	199	514	713
7. Textile	490	1,135	1,625	648	1,564	2,152	871	2,170	3,041
8. Mining and Metallurgy	499	..	499	596	..	596	734	..	734
9. Aeronautics	294	..	294	348	..	348	423	..	423
10. Automobile	495	..	495	549	..	549	624	..	624
11. Instrument Technology	540	..	540	639	..	639	777	..	777
12. Production Engineering	53	..	53	244	..	244	656	..	656
13. Industrial Engineering	18	..	18	55	..	55	100	..	100
14. Fisheries and Navigation	..	140	140	..	172	172	..	235	235
15. Printing Technology	..	634	634	..	741	741	..	940	940
16. Film Technology	..	162	162	..	194	194	..	255	255
17. Sugar Technology	..	58	58	..	81	81	..	136	136
18. Machine Tool maintenance and repair	..	26	26	..	78	78	..	171	171
19. Machine Design and Drafting	..	27	27	..	79	79	..	172	172
20. Architecture	266	..	266	311	..	311	399	..	399
21. Architectural Assistant ship	..	30	30	..	56	56	..	101	101
22. Others	..	976	976	..	972	972	..	981	981
Total	26,200	43,002	69,205	30,805	54,714	85,519	37,688	75,832	1,13,520

TABLE 8.

Stock of Engineering post graduate degree and diploma holders by speciality.

<i>Serial number and speciality.</i>						1978-79	1982-83	1988-89
(1)						(2)	(3)	(4)
1. Civil Engineering	..	..	..	..	..	1,178	1,472	2,086
2. Mechanical	..	..	..	..	..	1,165	1,640	2,579
3. Electrical	..	..	..	..	..	1,047	1,414	2,149
4. Chemical	..	..	..	..	..	536	750	1,177
5. Textile	..	..	..	..	..	98	123	178
6. Aeronautics	..	..	..	..	..	121	155	237
7. Applied Mechanics		..	..	..		68	124	229
8. Electronics	..	..	..	..	..	57	103	192
9. Industrial Engineering		..	..	..	..	212	255	362
10. Computer Science	..	..	..	..	..	79	156	709
11. Leather Technology	..	..	..	..	..	37	46	69
12. Metallurgy	..	..	..	..	..	125	197	339
13. Town and Country Planning		..	..	..		77	107	169
14. Electro-Chemical	..	..	..	..	..	8	16	29
15. Traffic Engineering		..	..	..	..	86	157	296
Total						4,894	6,717	10,402

TABLE 9.

Stock of Engineering Post Diploma-holders by Speciality.

Serial number and Speciality.						1978-79.	1982-83.	1988-89.
(1)						(2)	(3)	(4)
1.	Automobile Engineering	..	..	..	..	151	167	191
2.	Mechanical (Automobile)	..	..	..	..	104	136	179
3.	Air-Conditioning and Refrigeration	..	..	..	..	238	270	318
4.	Metallurgy	..	..	..	..	87	135	202
5.	Tool Design	..	..	..	..	119	177	259
6.	Television Engineering	..	..	..	..	16	48	90
7.	Welding Technology	..	..	..	..	51	91	150
8.	Diesel Traction	..	..	..	..	34	56	86
9.	Petro-Chemical Engineering	..	..	..	..	23	51	87
10.	Town and Country Planning	..	..	..	..	129	147	171
11.	Medical Equipment Technology	..	..	..	..	19	31	48
Total						971	1,309	1,781

TABLE 10.

*Stock of Engineers by level of Education.**Serial number and Speciality.*

Serial number and Speciality.						1978- 79				
						<i>Post Graduate Degree and Diploma.</i>	<i>Degree.</i>	<i>Post Diploma.</i>	<i>Diploma.</i>	<i>Total.</i>
(1)						(2)	(3)	(4)	(5)	(6)
1	Civil	..	..	..	..	1,264	4,080	129	10,761	16,234
2	Mechanical	..	..	..	..	1,445	7,368	495	16,981	26,289
3	Electrical	..	..	..	..	1,047	4,047	324	9,885	15,303
4	Chemical	..	..	..	..	544	1,818	23	403	2,788
5	Textile	..	..	..	..	98	392	..	1,135	1,625
6	Leather	..	..	..	..	37	96	..	294	427
7	Aeronautics	..	..	..	..	121	173	..	..	294
8	Electronics including Computer Science in P. G.					136	1,681	..	519	2,336
9	Metallurgy	..	..	..	..	125	374	..	..	499
10	Production Engineering			..	..	..	53	..	..	53
11	Automobile Engineering			..	..	..	495	..	..	495
12	Instrument Technology			..	..	..	540	..	..	540
13	Fisheries Technology and Navigation					..	..	..	140	140
14	Printing Technology			..	..	..	..	..	634	634
15	Film Technology:			..	..	..	..	..	162	162
16	Sugar Technology			..	..	..	..	..	58	58
17	Machine Design and Drafting:			..	..	..	..	..	27	27
18	Machine Tool Maintenance and Repair					..	..	..	26	26
19	Architecture including Town and Country Planning in P. G.					77	189	..	..	266
20	Architecture Assistantship			..	..	..	..	..	30	30
21	Others			..	..	..	..	..	976	976
Total ..						4,894	21,306	971	42,031	69,202

TABLE 10—cont.

Serial number and speciality.						1982-83.				
						Post graduate degree and diploma.	Degree.	Post diploma.	Diploma.	Total.
(1)						(2)	(3)	(4)	(5)	(6)
1	Civil	..	..	..	..	1,629	4,910	147	13,673	20,359
2	Mechanical	..	..	..	..	2,019	8,235	671	22,045	32,973
3	Electrical	..	..	..	..	1,414	3,948	440	12,190	17,992
4	Chemical	..	..	..	..	766	1,939	51	464	3,220
5	Textile	..	..	..	..	123	525	..	1,504	2,152
6	Leather	..	..	..	..	46	114	..	374	534
7	Aeronautics	..	..	..	..	155	193	..	..	348
8	Electronics including Science in P. G.	..	..	..	Computer	259	2,181	..	779	3,219
9	Metallurgy	..	..	..	..	197	399	..	..	596
10	Production Engineering	..	..	..	..	..	244	..	..	244
11	Automobile Engineering	..	..	..	..	..	549	..	..	549
12	Instrument Technology	..	..	..	..	..	639	..	..	639
13	Fisheries Technology and Navigation.	..	..	..	..	..	..	..	172	172
14	Printing Technology	..	..	..	..	..	..	..	741	741
15	Film Technology	..	..	..	..	..	..	..	194	194
16	Sugar Technology	..	..	..	..	..	..	..	81	81
17	Machine Design and Drafting	..	..	..	..	..	..	..	79	79
18	Machine Tool Maintenance and Repair.	..	..	..	..	..	..	..	78	78
19	Architecture including Town and Country Planning in P.G.	..	..	..	..	107	214	..	..	321
20	Architecture Assistant ship	..	..	..	..	..	..	..	56	56
21	Others	..	..	..	..	..	..	..	972	972
Total ..						6,715	24,090	1,309	53,405	85,519

TABLE—10—cont.

Serial number and speciality.						1988-89.				
						Post Graduate Degree and Diploma.	Degree.	Post Diploma.	Diploma.	Total.
(1)	(2)	(3)	(4)	(5)	(6)					
1 Civil	2,382	6,051	171	18,993	27,597					
2 Mechanical	3,171	9,132	917	31,087	44,307					
3 Electrical	2,149	3,605	606	16,460	22,820					
4 Chemical	1,206	1,990	87	591	3,874					
5 Textile	178	693	..	2,170	3,041					
6 Leather	69	130	..	514	713					
7 Aeronautics	237	186	..	..	423					
8 Electronics including Computer Science in Post Graduate	502	2,817	..	1,245	4,564					
9 Metallurgy	339	395	..	..	734					
10 Production Engineering .. .. .	..	656	..	..	656					
11 Automobile Engineering .. .. .	..	624	..	..	624					
12 Instrument Technology .. .. .	..	777	..	..	777					
13 Fisheries Technology and Navigation. .. .. .	..	..	..	235	235					
14 Printing Technology .. .. .	..	..	..	940	940					
15 Film Technology .. .. .	..	..	..	255	255					
16 Sugar Technology .. .. .	..	..	..	136	136					
17 Machine Design and Drafting .. .. .	..	..	..	172	172					
18 Machine Tool Maintenance and Repair. .. .. .	..	..	..	171	171					
19 Architecture including Town and Country Planning in Post Graduate	169	230	..	..	399					
20 Architecture Assistant ship .. .. .	..	..	..	101	101					
21 Others .. .. .	..	..	..	981	981					
Total	10,402	27,286	1,781	74,051	1,13,520					

NOTE :—(i) Civil Engineering includes Traffic Engineering in Post Graduate Course and Town and Country Planning in Post Diploma Course.

(ii) Mechanical Engineering includes Industrial Engineering and Applied Mechanics in Post graduate Course and Automobile Engineering, Metallurgy, Tool Design, Diesel traction in Post Diploma course.

(iii) Electrical Engineering includes Television Engineering, Medical Equipment Technology, Air-conditioning and Refrigeration in Post Diploma Course.

(iv) Chemical Engineering includes Electro-chemical in post Graduate Course and Petrochemical in Post Diploma Course

SECTION 5.

DEMAND FOR ENGINEERING PERSONNEL.

Methodology.—There are many methodologies for projecting the demand for engineering personnel. The method to be adopted will however, depend upon the purpose for which the projections are made, the sectors and structure of the economy and the data base available for the purpose. There are two broad approaches for estimating the demand for engineering viz., (i) the global approach and (ii) the segmental approach. In the global approach a functional relationship is established on the basis of past data, between engineering employment and parameters like national income, investment or total work force. Such a relationship is then applied to know or assume targets and the likely order of the requirements of engineers is estimated,

The segmental approach demands an indepth study of the factors affecting the engineering employment in each segment or sector of the economy. Vast data on employment pattern of engineers in the various segments according to industrial sectors, value of output, growth potential etc., are required for this purpose. According to an IAMR study, (1) the segmental approach linking the engineering employment with the engineering intensive sectors is considered to be the most desirable method for estimating the future demand for engineers. The IAMR have again pointed out in their background paper on review of methodologies for forecasting manpower demand and supply, (2) that the segmental approach, in any case, has to be adopted for working out the demand projections for different specialities and that the EMI data could be of for this purpose. However, it should be pointed out that the EMI data is based on the occupational concept and not based on various faculties of education, not to speak of different branches of engineering and technology. Notwithstanding this, the EPII data have been used in the present study, as, there is no other source of serial data on such comprehensive basis. Further, major engineering occupations like Civil Engineers, Mechanical engineers, Electrical Engineers etc., generally correspond to the engineering specialities.

The occupational concept used for the purpose of classifying the engineering occupation is defined as a trade, profession or type of work performed by an individual independent of the industry in which he works, status or years of experience. When engineering manpower is classified on the basis of occupational concept, it covers all those who perform engineering functions irrespective of their educational qualification. As such it covers not only degree and diploma holders in engineering profession. In the present study engineering manpower has been treated as an occupational group for projecting the future demand and the number of engineering degree and diploma holders have been arrived at from the over all estimate on the basis of the educational composition of engineering occupations.

All engineering occupations above that of a Craftsman or production process worker which involve well defined engineering duties and responsibilities and demand a formal degree or diploma in engineering or technology or an equivalent type of experience or training have been identified from the list of National Classification of Occupations (N.C.O.) of the DGE & T and covered by the present study.

Sources of Data.—The Director of Employment and Training collects, under E.M.I. programme data on employment regularly from all the establishments in the public sector and from all the non-agricultural establishments in the private sector employing 10 or more persons. Based on these data the Director of Employment and Training publishes reports on occupational pattern of employees for public and private sectors in alternate years. This is one of the comprehensive sources of employment data useful for manpower planning. However there are certain gaps in the E.M.I. data. It does not cover agricultural establishments and small establishments in the private sector and self-employment. The basic frame of establishment used for the collection of data may not be upto date and there is the non-response from establishments.

The special census of Degree Holders and Technical Personnel (DHTP) of census 1971 is another source of data on educational classification of workers and non-workers. But the data on engineering and technological manpower were grouped on the basis of level of qualification and not on the basis of the different specialities of engineering and technology. The non-response rate is very high and this rate is applicable only to the data at all-India level. Great caution has therefore to be exercised while interpreting the data and drawing inferences.

The estimates of State Income at current and constant prices are prepared by the State Income Division of department of Statistics following the methodology prescribed by the Central Statistical Organisation. These data are available for 13 Sectors. The following engineering intensive sectors have been considered for the present study :—

1. Mining and Quarrying.
2. Manufacturing.
3. Construction.
4. Electricity, Gas and Water Supply.
5. Transport and Communication.
6. Other Services including Public administration.

The sectoral estimates output at constant prices (at 1970-71 prices) have been individually projected up to the year 1988-89 by fitting the data for the years from 1970-71 to 1977-78 to the curve of the type $I = abt^c$ where 'I' is the sectoral output, 't' the time variable in years and 'a' and 'b' are parameters.

Development of time series data on engineering employment.—The occupational data for the years from 1978 to 1974, were considered for the Present study. The data on engineering employment in the selected occupations were called out from the records of the DEI and from the reports on "Occupational Pattern of employees". The Occupational data for the public sector were available for the years 1968, 1970, 1972 and 1974. For the private sector the data were available for the year 1973 only. The employment data on engineering occupations were corrected for non-response. These data were collected for the wing engineering occupations at three digit level of NCO:—

<i>Serial number.</i>	<i>NCO Code.</i>	<i>Code Description.</i>
1.	000	Architects.
2.	001	Civil Engineers (including Overseers)
3.	002	Mechanical Engineers.
4.	003	Electrical Engineers.
5.	004	Chemical Engineers.
6.	005	Metallurgical Engineers.
7	006	Mining Engineers.
8	007	Surveyors.
9	009	Architects, Engineers and Surveyors, n.e.c.
10	009	Draftsmen.
11	091	Laboratory Assistants.
12	099	Scientific and engineering technicians n.e.c.
13	Group 13 601 } & } 621 } 672 }	Directors, Managers and Working Proprietors, n.e.c.
14		Ship engineers and Flight engineers.
15		
16		Radio, communications and wireless operators.
17	679 }	Telephone, Telegraph and related telecommunication operation n.e.c and
18	693 }	Inspectors, Traffic controllers and dispatchers, communication.

The requirement of university teachers engineering (N.O.C. 050-50) does not directly depend on sectoral outputs, rather it depends on enrolment of students in engineering colleges and polytechnics. Hence the requirement of engineering teachers were estimated separately on the basis of the projected or assumed level of enrolment of engineering students.

The engineering employment in the public sector for the years 1969, 1971 and 1973 has been estimated by taking the average of the engineering employment for the years 1968, 1970, 1971, 1972 and 1973, 1974. As regards the private sector, the data on engineering employment for 1973 was deflated till 1968 and projected upto 1974 on the basis of the index of engineering employment in the public sector constructed with 1973 as base and the estimates of engineering employment in the private sector for the years 1968 to 1972 and 1974 were arrived at. The time series data on total employment for each engineering occupation were arrived at for the years from 1963 to 1974 by adding the employment figures pertaining to public sector for 1968 to 1974 to the employment figures in the private sector of the corresponding year.

On the basis of the public sector data for 1972 and the private sector data for 1973 the educational composition of engineering employment in the following occupations were worked out.

1. Civil Engineers.
2. Mechanical Engineers.
3. Electrical Engineers.
4. Chemical Engineers.
5. Draughtsmen.
6. University teachers (Engineering) including polytechnics.

For the remaining occupations, the All India proportions arrived at by the IAMR (I) on the basis of the D.G.E.T. reports for the years 1967 for private sector and 1968 for public sector have been adopted due to paucity of data on occupational and educational composition at State level.

Assumptions made and Limitations. -- A linear relationship between engineering employment and sectoral output has been assumed in this study. It is also assumed that there will not be any structural change in engineering employment. Persons employed in the selected engineering occupation in establishments employing less than 10 persons and agricultural establishments in the private sector are not covered by the present study. Self-employed persons are not covered under the occupational analysis part of the study. However estimates of engineering degree and diploma holders for self-employment have been worked out on the basis of the results of the 1971 social census of Degree holders and technical personal (DHDT).

IAMR report on 1/74 Engineering occupations in the Fifth plan.

The estimates are based on the data collected under the EMI programme by the State Directorate of Employment and Training and the limitations of data are likely to create a margin of error. Similar limitations in the data on the estimates of the sectoral outputs may also be kept in view.

Estimation of engineering employment in industrial sectors.—Time series has been built with reference to the industrial sectors for each specific occupations. There is considerable variation in the concentration of engineering employment in each sector of the economy. A detailed analysis of the distribution of engineering employment in different sector of the economy has been undertaken for 1974 and presented in Table 11.

It may be seen from the table that manufacturing, other services, construction and electricity gas and water supply are the four engineering occupation intensive sectors. Electrical engineers, draftsmen, Civil Engineers, Director, Managers etc., and Mechanical Engineers are the five engineering occupations in the state. Among these major engineering occupations, 44.6 per cent. of Electrical engineers are in Electricity, Gas and Water supply, 33.0 per cent of Draftsmen are in other service, 70.3 per cent of Civil Engineers are in construction and 72.9 per cent of Director Managers etc., and 51.4 per cent Mechanical engineers are in manufacturing sector. University teachers (Engineering, Surveyors, Architects, Lab. Assistants and other scientific and engineering personnel are concentrated in the other services sector, while Telephone, Telegraph, Traffic controllers etc., and ship and flight engineers are in Transport and communications sector. Radio communication and wireless operators are concentrated both in Transport and communications and in other services sectors.

The time series data for selected engineering occupations have been analysed separately for each sector. As already pointed out, in each engineering occupations, the employment is concentrated only in a few sectors of the economy. Hence engineering employment for each occupation has been projected for such specific sector, adopting the method of regression analysis. By this method a linear relationship has been established on the basis of the time series data on Engineering employment and the value of sector output by fitting the data to the regression equation of the type $Y_{ij} = aX_j + b$. Where Y_{ij} = i th engineering occupation in the j th sector.

XY_j — i th Sectoral output in the j th sector and b are parameters to be determined. The regression equations so obtained for each occupation under different sectors of economy and the value are given in appendix XIX.

With the help of these regression equations two sets of estimates of engineering employment have been arrived at on the basis of the following two assumptions on the growth of the economy :—

(i) that the economic sectors will grow at the rate witnessed during the period 1970-78. (Trend Growth Rate).

(ii) that the economic sectors will grow at the rate of growth assumed by the State Planning commission for the Sixth Plan period 1978-83 (Targeted Growth Rate)

The details regarding the sectoral growth rates (both trend as well as targetted) adopted for projecting the engineering employment are given in the appendix XX.

TABLE 11.

Sectoral distribution of Engineering Employment 1974.
(PERCENTAGE).

VCO Code.	Description.	Agriculture.	Mining.	Manufacturing.	Construction.	Electricity gas and water supply.	Trade and commerce.	Transport and communication.	Other Services	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
000	Architects .. ..	..	0.6	..	0.6	..	..	..	98.8	(0.46) 100
001	Civil Engineers	0.2	2.7	10.6	70.3	3.1	0.5	2.9	9.7	(14.68) 100
002	Mechanical Engineers ..	0.4	13.9	51.4	5.6	1.2	0.7	17.5	6.3	(13.01) 100
003	Electrical Engineers ..	0.1	9.2	20.07	5.4	44.6	2.3	3.8	13.9	(18.19) 100
004	Chemical Engineers ..	..	37.1	47.2	0.9	..	..	..	14.8	(1.40) 100
005	Metallurgical Engineers	..	..	73.7	..	..	..	21.1	5.2	(0.10) 100
006	Mining Engineers ..	..	86.5	13.5	..	..	..	..	..	(0.39) 100
007	Surveyors	0.2	0.6	4.1	2.6	1.8	..	..	90.7	(5.66) 100
009	Technologists ..	1.5	2.0	45.3	28.8	32.2	1.0	1.1	17.1	(6.25) 100
050-50	University Teachers (Engineering).	..	2.5	..	..	..	..	..	97.5	(2.89) 100
090	Draftsmen	1.2	1.8	18.9	30.5	9.3	0.6	4.7	33.0	(15.38) 100
091	Lab. Assistants ..	0.3	0.6	23.0	6.4	0.4	1.8	4.2	63.3	(2.39) 100
099	Other Scientific and Engineering Personnel	0.2	2.1	28.6	13.4	5.9	0.2	5.6	44.0	(1.13) 100
13	Director and Manager.	0.2	1.3	72.9	0.4	0.3	8.5	12.9	3.5	13.54 100
501 & 512	Ship and Flight Engineers	..	..	..	..	..	..	100.0	..	(0.38) 100
572	Radio Communication and Wireless operators.	..	..	7.2	10.6	..	..	39.6	42.6	(0.77) 100
579 & 593	Telephone, Telegraph Traffic Controllers etc.	..	..	0.8	16.5	..	..	82.3	0.4	(3.50) 100
	Total ..	0.43	5.65	31.23	20.26	8.32	1.84	10.39	21.88	(100) 100

TABLE 12

Engineering occupation NCO Code.	Description.	Increase in engineering employment during the period 1979-89. Projected total engineering employment				Increase in engineering employment 1983-89
		1978-79	1982-83	1988-89	1979-83	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(i) Based on Trend Growth Rate.						
000	Architects	207	246	318	39	72
001	Civil Engineers	10,323	11,752	14,462	1,429	2,710
002	Mechanical Engineers	10,789	13,382	18,280	2,593	4,898
003	Electrical Engineers	7,172	8,840	12,020	1,668	3,180
004	Chemical Engineers	2,259	2,887	40,42	628	1,155
005	Metallurgical Engineers	68	88	123	20	35
006	Mining Engineers	190	226	292	30	66
007	Surveyors	2,827	3,186	3,839	359	653
009	Technologists	2,962	2,940	5,769	978	1,829
050-50	University Teachers (Engineering)	2,981	3,208	4,239	227	1031
090	Draftsmen	8,562	10,852	15,111	2,290	4,529
091	Lab. Assistants	1,250	1,468	1,868	218	400
099	Other Scientific and Engineering personnel.	1,569	2,220	3,436	651	1,216
13.	Directors and Managers	7,759	8,339	9,404	580	1,065
601	Ship and Flight Engineers	40	48	62	8	14
602	Radio communication and Wireless operators.	353	411	518	58	107
672						
679	Telephone, Telegraph Traffic	1,815	2,160	2,792	345	632
693	Controllers, etc.					
Total ..		61,126	73,253	96,575	12,127	23,322

TABLE II.

Based on Targetted Growth Rate.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
000	Architects	210	264	368	54	104
001	Civil Engineers	10,380	12,124	15,701	1,744	3,577
002	Mechanical Engineers	10,856	13,821	19,699	2,965	5,878
003	Electrical Engineers	7,350	10,094	16,068	2,744	5,974
004	Chemical Engineers	2,259	2,887	4,042	628	1,155
005	Metallurgical Engineers	68	88	123	20	35
006	Mining Engineers	193	242	338	49	96
007	Surveyors	2,839	3,260	4,046	421	786
009	Technologists	2,999	4,177	6,527	1,178	2,350
050-50	University Teachers (Engineering) ..	2,981	3,208	4,239	227	1,031
090	Draftsmen	8,867	11,724	17,412	2,861	5,688
091	Lab Assistants	1,253	1,488	1,922	235	434
099	Other Scientific and Engineering Personnel.	1,594	2,377	3,941	783	1,564
13.	Directors and Managers	7,761	8,365	9,479	604	1,114
601	Ship and Flight Engineers	41	51	72	10	21
602						
672	Radio Communication and Wireless operators.	354	418	538	64	120
679	Telephone, Telegraph, Traffic	1,845	2,314	3,232	469	918
693	Controllers etc.					
Total ..		61,846	76,902	1,07,747	15,056	30,841

REQUIREMENT OF ENGINEERING TEACHERS.

The requirement of Engineering teachers in Engineering College and Polytechnics has been estimated on the basis of the teacher-pupil ratio. For this purpose, the intake of students in the Engineering College and Polytechnics has been projected up to 1988-89 as detailed in the previous section. On the basis of these projected intake of students, the total strength of students in the post-graduate degree and diploma courses have been built up to 1988-89.

The available data on teachers in engineering colleges include all kinds of teaching staff—engineering, scientific and other non-engineering teachers. Hence the gross requirement of teachers in engineering colleges and polytechnics were first arrived at utilising the teacher-pupil ratio arrived at on the basis of the enrolment of students and number of teachers for the three year-period from 1976-77 to 1978-79. It would have been more appropriate to estimate the requirement of teachers for degree and post-graduate courses in the engineering colleges separately adopting different norms. But due to paucity of sufficient data the total requirement of teachers in engineering colleges were estimated adopting a combined teacher-pupil ratio for degree and P.G. courses teacher-pupil ratio of 10 for engineering colleges and 12 for Polytechnics have been adopted to estimate the requirement of teachers in engineering colleges and polytechnics. The estimates of teachers with engineering degree and diploma have been arrived at on the basis of educational composition of teachers in engineering colleges and polytechnics as revealed by the EMI data for 1974. The total requirement and the increase in the number of teachers in engineering colleges and polytechnics for the years 1978-79, 1982-83 and 1988-89 are furnished in table 13 below :—

TABLE-13.

Total requirement and the increase in the number of teachers in Engineering Institutions.

1)	Total number of teachers.			Increase in number of Teachers during.	
	1978-79.	1982-83.	1988-89.	1979-83.	1983-89.
	(2)	(3)	(4)	(5)	(6)
1. Engineering Colleges	1,672	1,707	2,133	35	426
2. Polytechnics	1,309	1,501	2,106	192	605
Total	2,981	3,208	4,239	227	1,031

ESTIMATION OF ENGINEERING DEGREE AND DIPLOMA COMPONENT OF ENGINEERING OCCUPATIONS

The engineering degree and diploma component of the projected engineering employment in each engineering occupation has been worked out on the basis of the educational composition of engineering employment in these occupations developed with the help of the 1974 public sector and 1973 private sector occupational pattern reports of the DET as already explained in the beginning of this section.

Engineering degree and diploma holders are also employed in few other occupations coming under the purview of the DET survey, but not covered by the present study as they do not lend themselves to meaningful analysis. An analysis of the 1967 private sector and 1968 public sector occupational pattern reports of the DGET made by the IAMR (1) has revealed that 0.43 per cent of the degree holders and 11.60 per cent of the diploma holders coming under the purview of the DGET survey are engaged as supervisors of production process and about 3.0 per cent of degree holders and 3.68 per cent of diploma holders are in the occupation "Administrative and Executive Officers". The above study has also revealed that about 4.64 per cent of degree holders and 6.35 per cent of diploma holders are in other miscellaneous occupations which, are not easily identifiable. The requirement of engineering degree and diploma holders under this three categories

(1) IAMR Report No. 1/74 "Engineering Occupations in the Fifth Plan"

Occupations have been estimated from the total number of engineering degree and diploma holders arrived at for the occupations covered by the present study and Presented in table 14 below:—

TABLE No. 14.

Estimates of Engineers Employed in supervision of production process, Administrative and Executive and in other miscellaneous occupations.

Serial number and Occupation.	1978-79			1982-83			1988-89		
	Degree and above.	Diploma.	Total.	Degree and above.	Diploma.	Total.	Degree and above.	Diploma.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(i) Based on trend growth rate.									
1. Supervisors of production process.	65	2,383	2,448	77	2,904	2,981	101	3,894	3,995
2. Administrative and executive officials (Government).	455	756	1,211	537	921	1,458	705	1,235	1,940
3. Engineers, employed in other miscellaneous occupations.	701	1,304	2,005	828	1,590	2,418	1,087	2,132	3,219
(ii) Based on targetted growth rate.									
1 Supervisors of production process.	66	2,417	2,483	81	3,081	3,162	114	4,426	4,540
2. Administrative and executive officials (Government).	459	767	1,226	565	277	1,542	795	1,404	2,199
3. Engineers employed in other miscellaneous occupation.	708	1,323	2,031	871	1,687	2,558	1,225	2,423	3,648

An attempt has also been made to arrive at an estimate of the requirement of engineering degree and diploma holders in self employment. The tables relating to the 1971 special census of degree holders and technical personnel (DHTP) contain data on activity status of the stock of engineering personnel. According to this special census, the self-employed engineers constituted about 8.73 per cent of degree and 4.55 per cent of diploma holders of the respective categories in 1971. Applying these percentage to the projected employment of engineering degree and diploma holders, the requirement of engineering personnel in the self-employment has been estimated.

There will be a margin of error in the estimates of requirement of engineers for self-employment thus arrived at as there is a gap in the estimates of total employment on which these estimates are based viz., non-coverage of engineering occupations in small establishments and agricultural establishments in the Private sector. Further, the proportion of engineering personnel opting for self-employment might have appreciated since 1971 due to a variety of incentives offered by the Central and State Governments and Nationalised Banks. However, these estimates may be deemed to be on the low side and an indicator of the trend in the requirement of engineering personnel in self-employment. The estimates of total engineering personnel for self-employment for the years 1978-79, 1982-83 and 1988-89 are presented in the table below :

TABLE No. 15.

Number of Engineering Degree and Diploma Holders in Self Employment.

Category.	1978-79	1982-83	1988-89
(1)	(2)	(3)	(4)
(i) Based on trend growth rate.			
Degree holders	1,426	1,683	2,210
Diploma holders	1,137	1,386	1,858
Total ..	2,563	3,069	4,068

(ii) Based on Targetted growth rate.

Degree holders	..	..	..	..	..	..	1,440	1,771	2,491
Diploma holders	..	..	..	..	..	..	1,153	1,470	2,112
Total	..						2,593	3,241	4,603

The engineering degree and diploma component of the total engineering employment in respect of all the occupations are presented in Table 16. In arriving at these estimates of engineering degree and diploma component of engineering occupations, it has been assumed that the observed proportions of degree and diploma holders will remain constant over the period covered by the study.

Additional requirement of engineering degree and diploma holders for the period from 1979 to 1989.—The additional requirement of engineering personnel is composed of two components, (i) increase in employment resulting from the growth of the economy and (ii) replacement needs to cover attrition in stock due to death retirement, etc.

The increase in requirements due to growth of the economy has been worked out from the engineering degree and diploma component of the over all estimates presented in table 16. The estimates on replacement needs have been arrived at by adopting an attrition rate of 2 percent per annum for engineering degree holders and 1.1 percent per annum for engineering diploma holders. The estimates of the additional requirement of engineering degree and diploma holders for the 10 years period 1979–89 (covering the remaining 4 years of the current plan 1979–83 and the 6 years period of 1983–89) are presented in table 17.

TABLE NO. 16.

Engineering degree and diploma component of projected Engineering Occupations.

(1)	1978-79			1982-83			1988-89		
	Degree and above.	Diploma holders.	Total.	Degree and above.	Diploma holders.	Total.	Degree and above.	Diploma holders.	Total.
(i) Based on trend growth rate.									
1 Architects	106	57	163	126	67	163	86	349
2 Civil Engineers	4,673	3,778	8,451	5,324	4,301	6,551	5,253	11,844
3 Mechanical Engineers	3,226	4,877	8,103	4,001	6,049	5,466	8,263	13,729
4 Electrical Engineers	3,120	2,725	5,845	3,845	3,359	5,229	4,568	9,797
5 Chemical Engineers	382	657	1,039	488	840	683	1,176	1,859
6 Metallurgical Engineers	25	36	61	33	9	47	12	59
7 Mining Engineers	64	26	90	76	31	99	40	139
8 Surveyors	27	164	191	31	185	216	223	260
9 Technologists	444	696	1,140	591	926	865	1,356	2,221
10 University Teachers (Engineering)	2,125	179	2,304	2,287	192	2,479	254	3,27
11 Draughtsmen	43	4,769	4,812	54	6,044	76	8,417	8,493
12 Laboratory Assistants	10	29	39	11	34	14	44	58
13 Other Scientific and Engineering personnel	38	131	169	54	184	84	285	369
14 Directors and Manager	613	427	1,040	659	459	743	517	1,260
15 Ship and Flight Engineers	25	15	40	30	16	39	23	62
16 Radio Communication and Wireless Operators	353	353	..	411	..	518	518
17 Telephone, Telegraph and Traffic controllers, etc.	194	1,621	1,815	231	1,929	299	2,413	2,792
18 Supervisor of Production Process	65	2,383	2,448	77	2,904	101	3,894	3,995
19 Administrative and Executive Officers in Government	455	756	1,211	537	921	705	1,235	1,940
20 Engineers in other miscellaneous occupations	701	1,304	2,005	828	1,590	1,087	2,132	3,219
21 Self employed	1,426	1,137	2,563	1,683	1,386	2,110	1,858	4,068
Total	17,762	26,120	43,882	20,966	31,837	27,520	42,687	70,207

TABLE NO. 16—cont.

Engineering degree and diploma component of projected Engineering Occupations—cont.

Serial number and occupation.	1978-79.			1982-83.			1988-89.			
	(1)	D. degree and holders, above.		(4)	D. degree and holders, above.		(7)	D. degree and holders, above.		(10)
		(2)	(3)		(5)	(6)		(8)	(9)	
(ii) Based on targetted growth rate.										
1 Architects	108	57	165	136	72	208	189	100	289
2 Civil Engineers	4,702	3,799	8,501	5,492	4,437	9,929	7,113	5,747	12,860
3 Mechanical Engineers	3,246	4,907	8,153	4,132	6,247	10,379	5,890	8,903	14,793
4 Electrical Engineers	3,197	2,793	5,990	4,391	3,836	8,227	6,990	6,106	13,096
5 Chemical Engineers	382	657	1,039	488	840	1,328	683	1,176	1,859
6 Metallurgical Engineers	26	7	33	33	9	42	47	12	59
7 Mining Engineers	65	26	91	82	33	115	114	46	160
8 Surveyors	27	165	192	31	189	220	39	23	274
9 Technologists	450	705	1,155	627	982	1,609	979	1,534	2,513
10 University Teachers (Engineering)	2,125	179	2,304	2,287	192	2,479	3,022	254	3,276
11 Draughtsmen	44	4,937	4,981	59	6,530	6,589	87	9,698	9,785
12 Laboratory Assistants	10	29	39	11	35	46	15	45	60
13 Other Scientific and Engineering Personnel	39	182	171	58	197	255	97	327	424
14 Directors and Managers	613	427	1,040	660	460	1,120	749	521	1,270
57 Ship and Flight Engineers	26	15	41	32	19	51	45	27	72
11 Radio Communication and Wireless Operators	354	354	..	418	418	..	533	533
6 Telephone, Telegraph and Traffic Controllers	197	51,648	1,845	248	52,066	2,314	346	2,883	3,232

TABLE—16—contd..

18 Supervisors of Production Process Workers	..	..	66	2,417	2,483	81	3,081	3,162	114	4,426	4,540
19 Administration and Executive Officials in Government	..	..	459	767	1,226	265	977	1,542	795	1,404	2,199
20 Engineers in other miscellaneous occupations	..	..	708	1,323	2,031	871	1,687	2,558	1,225	2,423	3,648
21 Self-employed	1,440	1,153	2,593	1,771	1,470	3,241	2,491	2,112	4,603
Total	17,930	26,497	44,427	22,055	33,777	55,832	31,010	48,520	79,550

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TABLE No. 17.

Additional Requirement of Engineering Degree and Diploma holders for the 10 years period 1979-80.

Serial number and occupation.	1979-83.					1983-89.					Total		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	(i) based on Targetted Growth Rate.												
	Diploma and above in degree in replace-ment needs.	Total Cells (2)+(3).	Diploma in degree in replace-ment needs.	Holders Replace-ment needs.	Total cells (5)+(6).	Degree in replace-ment needs.	And above in replace-ment needs.	Total cells (8)+(9).	Diploma in degree in replace-ment needs.	Holders in place in replace-ment needs.	Total cells (11)+(12).		
1 Architects	28	10	38	15	4	19	53	20	73	28	6	34	
2 Civil Engineers	790	415	1,205	638	84	822	1,621	766	2,387	1,310	340	1,650	
3 Mechanical Engineers	886	303	1,189	1,340	252	1,592	1,758	614	2,372	2,656	509	3,165	
4 Electrical Engineers	1,194	313	1,507	1,043	150	1,193	2,599	697	3,336	2,270	335	2,605	
5 Chemical Engineers	106	36	142	183	34	217	195	72	267	336	55	391	
6 Metallurgical Engineers	7	4	11	2	..	2	14	6	20	3	..	3	
7 Technologists	177	46	223	277	38	315	352	160	452	552	87	639	
8 Draughtsmen	15	4	19	1,593	260	1,853	28	9	37	3,168	543	3,711	
9 Mining Engineers	17	6	23	7	..	7	32	12	44	13	..	14	
10 Surveyors	4	4	8	24	8	32	8	6	14	46	13	59	
11 Directors and Managers	47	51	98	33	20	53	89	85	174	61	52	93	
12 Radio Communication & Wireless Operators, Telephone, Telegraphs and traffic controllers, etc.	51	18	69	482	100	582	98	37	135	540	198	1,138	
13 Other scientific & Engg. Personnel including Lab, Assis ship and Flight Engineers ..	26	8	34	75	8	83	56	16	72	148	18	168	
14 University Teachers (Engg)	162	176	338	13	8	21	735	333	1,068	62	16	78	
15 Supervisors in production process	15	6	21	664	124	788	33	12	45	1,345	253	1,598	
16 Administrative and Executive Officials in Government	106	42	148	210	40	250	230	84	314	427	80	507	
17 Engineers in other occupations	163	64	227	364	67	431	354	129	483	736	139	875	
18 Self Employed	331	130	461	317	58	375	720	261	981	642	120	762	
Total	4,125	1,636	5,761	7,280	1,355	8,635	8,975	3,259	12,234	14,343	2,761	17,104	

TABLE No. 17—cont.

(1) Based on Trend Growth Rate.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1 Architects
2 Civil Engineers
3 Mechanical Engineers
4 Electrical Engineers
5 Chemical Engineers
6 Metallurgical Engineers
7 Technologists
8 Draughtsmen
9 Mining Engineers
10 Surveyors
11 Directors and Managers
12 Radio Communication and Wireless Operators Telephone, Telegraph and traffic controllers, etc.
13 Other scientific and Engineering Personnel including Laboratory Assistants, Ship and Flight Engineers.
14 University Teachers (Engineering)
15 Supervisors in Production process
16 Administration and Executive Offices in Government.
17 Other miscellaneous Occupations
18 Self Employed
Total

SECTION—6.

ESTIMATION OF EMPLOYMENT IN SMALL ESTABLISHMENTS AND COMPARISON OF TOTAL SUPPLY WITH DEMAND FOR ENGINEERING PERSONNEL.

The estimates of demand arrived at in the previous section do not cover (i) engineers employed in establishments employing less than 10 persons and (ii) apprentices and trainees. In addition to the employed engineering personnel the stock includes the (i) unemployed, (ii) unemployed but not seeking employment and (iii) post graduate and post diploma students who, are attending full time classes in Colleges and Polytechnics. The number of engineers falling under the category of apprentices and trainees has been estimated on the basis of the special census of Degree Holders and Technical Personnel of Census 1971. The estimates of engineers attending full time classes have been arrived at on the basis of the past trend in the intake of students in these courses.

Reliable data on unemployment of engineering Personnel are not available. The Live Register figures on unemployment also include employed persons who register their names for better prospects and full time students. The Live Register figures also suffer from the defect of under registration, since registration being voluntary all unemployed persons do not register with the employment exchanges. A study, recently conducted by DGET (I) has shown that 56.8 per cent of engineering diploma holders and 54.7 per cent of engineering degree holders registered with the employment exchanges are unemployed while, the rest are employed and full time students. According to the 21st round of NSS (relating to 1966-67) 69.5 per cent of unemployed degree holders and 71 per cent of unemployed persons "other than graduates having technical education", (i.e. Technical Diploma Holders) do not register with the employment exchanges. Applying these correction factors to the Live Register figures for 1978-79, the number of unemployed engineering degree and diploma holders has been estimated at 7,407. By subtracting the unemployed, apprentices and trainees, students, etc., from the total stock, the estimated number of engineering degree and diploma holders who are in employment in 1978-79 has been arrived at as 60,090.

The study covered 41,379 degree and Diploma holders. The difference between the estimated total number employed and that covered by the study will represent the component of engineers employed in the establishments not covered by the DET survey. (i.e. the small establishments employing less than 10 persons). The analyses are presented below.—

	Degree	Diploma	Total
(1)	(2)	(3)	(4)
1. Total Stock	26,200	43,002	69,202
2. Students	1,203	87	1,290
3. No. not in labour force (0.5% and 0.6% of item 1)	141	274	415
4. Number unemployed	1,799	5,608	7,407
5. Sub total 2 to 4	3,143	5,969	9,112
6. Estimated number of employed engineers (item 1 - item 5)	23,057	37,033	60,090
7. Employees covered by the occupational study	16,336	24,983	41,319
8. Self-Employed	1,426	1,137	2,563
9. Apprentices and Trainees (4.8% and 4.9% of item 1)	1,268	2,122	3,390

10. Sub total 7 to 9	19,030	28,242	47,272
11. Number employed in small establishments not covered by DEF (item 6-item 10)	4,027	8,781	12,818
12. (i) Percentage of item 11 to item 7. ..	25.7	35.2	31.0
(ii) Percentage of item 11 to item 1. ..	15.4	20.4	18.5
13. Percentage of item 9 to item 7	7.8	8.5	8.2

Thus the component of engineers in small establishments not covered by DEF works out to 25.7% of degree and 35.2 percent of diploma holders covered by the study.

Adopting these proportions, the number of engineers required for employment in the establishment not covered by the DEF for years 1982-83 and 1988-89 has been arrived at. The difference between the estimated stock and that of the employed, students, apprentices etc. represents the gap between the supply of and demand for engineers. The results are presented in table 18. It may be seen that according to this "Trend estimates" the present surplus among engineering graduates will slowly vanish and by 1988-89 the situation will turn out to be one of shortage of engineers to the tune of about 1,059 engineering graduates. According to the estimates based on Targetted rate, the deficit will be more pronounced leaving a big gap of about 5,657 engineering graduates.

As regards engineering diploma holders, an entirely different situation emerges. According to the Trend estimates, the gap between supply and demand will further widen and reach a record figure of 13,639 by 1988-89. If the different sectors of the economy are geared to grow at the targetted growth rate, the present trend of widening of gap will however be arrested to a great extent though not reduced.

SECTION—7 CONCLUSION

The current unemployment among engineering personnel can be attributed to the non-fulfilment of the planned target. As far as engineering graduates are concerned, the economy will face a shortage of this manpower by the end of 1988-89, even if the economy is allowed to grow at the rate witnessed during the past (trend growth rate). The shortage will be more pronounced and will be felt even in the beginning of the next plan itself, if the economy is geared to grow at an accelerated rate of growth as envisaged in the Draft Sixth Plan. The situation therefore warrants fresh look at the present policy of maintaining the 1978-79 level of intake in the degree courses for the remaining period of the current plan for any shortage in this critical category of technical manpower would seriously hamper the planned economic development of the State.

As regards engineering diploma holders the anticipated supply would leave an even increasing surplus over the demand, if the economy is allowed to grow at the rate of growth witnessed during the past (trend growth). However, if the different sectors of the economy are more vigorously activated to attain the goals set forth in the Draft Sixth Plan, the widening gap would be arrested to a great extent. The present scheme of diversification of courses and modernisation of curricula would go a long way in meeting the specific needs of the industry. However, in view of the anticipated surplus in the total supply of diploma holders, any further increase in the intake of students in the conventional courses like Civil, Mechanical and Electrical may aggravate the problem of unemployment among these categories of engineering personnel.

TABLE No. 18.

Projected Supply and Demand for Engineering Personnel for the Years 1982-83 and 1988-89.

Serial number and Item.	Degree.	1982-83 Diploma.	Total.	Degree.	1988-89 Diploma.	Total.
1. (Based on Trend Growth Rate).						
1. Total Stock	30,805	54,714	37,688	75,832	1,13,520
2. Employed	27,465	45,042	53,050	60,529	96,579
(i) Covered by the Study	19,283	30,451	25,310	40,829	66,139
(ii) Self-employed	1,683	1,386	2,210	1,858	4,068
(iii) Number employed in Sm. II establishments	4,956	10,719	6,505	14,372	20,877
(iv) Trainees and Apprentices	1,543	2,486	2,025	3,470	5,495
3. Students etc.,	1,834	428	2,697	605	3,302
4. Sub-total (employed and Students)	29,299	45,470	38,747	61,134	99,881
5. Difference between supply and demand deficit (--) or surplus (+)	(+) 1,506	(+) 9,244	(-) 1,059	(+) 14,698	(+) 13,639

TABLE No. 18.—(Contd.)
Projected Supply and Demand for Engineering Personnel for the years 1982-83 and 1988-89.

<i>Serial number and Item,</i>	<i>(ii) Based on Targetted Growth rate.</i>					<i>1988-89 Diploma.</i>	<i>Total.</i>
	<i>(1)</i>	<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>		
1. Total Stock	30,805	54,714	85,519	37,688	75,832	1,13,520
2. Employed	28,891	47,895	76,786	40,648	68,801	1,09,449
(i) Covered by the study	20,284	32,307	52,591	28,539	46,408	74,947
(ii) Self employed	1,771	1,470	3,241	2,491	2,112	4,603
(iii) Number employed in small establishments	5,813	11,372	16,585	7,335	16,336	23,671
(iv) Trainees and Apprentices	1,623	2,746	4,369	2,283	3,945	6,228
3. Students etc.,	1,834	428	2,262	2,697	605	3,302
4. Sub-Total (employed and students)	30,725	48,323	79,048	43,345	69,406	1,12,751
5. Difference between supply and demand deficit (—) or Surplus (+)		(+) 80	(+) 6,391	(+) 6,471	(—) 5,657	(+) 6,426	(+) 769

PART—C

सत्यमेव जयते

SELECT ECONOMIC INDICATORS.

1. GROWTH OF POPULATION.

(1)	1941 (2)	1951 (3)	1961 (4)	1971 (5)	1981 (P) (6)
Population in lakhs ..	263	301	337	412	433
Decadal Variation (Per Cent). ..	(+) 14.91	(+) 14.66	(+) 11.85	(+) 22.00	(+) 17.29
Index of Population ..	130	150	170	214	250.9

(P)—Provisional.



2. INDEX NUMBERS OF AGRICULTURAL ECONOMY.

	1974-75.	1975-76.	1976-77.	1977-78.	1978-79.	1979-80. (P.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Index of area under Crops.	93.3	101.3	108.0	107.2	110.6
Index of Agricultural Production	103.9	123.2	142.6	147.7	155.8
Index of Yield	104.4	126.7	127.0	130.6	133.6
Index of Cropping intensity	101.1	101.7	103.2	103.2	106.4
Index of Productivity per nett hectare..	112.6	130.0	136.0	142.2	150.0
Index of Cropping pattern	106.3	100.7	103.9	105.5	105.5
Index of nett area sown	92.3	99.6	104.7	103.9	103.9

(P) - Provisional.

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3. INDEX NUMBERS OF WAGES PAID TO CERTAIN CATEGORIES OF AGRICULTURAL LABOURERS.

(Base Year 1970 = 100)

Quarter ended.	Ploughmen.	Transplanters and Weeders.		Reapers and harvesters.		Tending Cattle.		Other Agricultural Labourers.	
		Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
June 1981	227	319	243	235	294	172	335	325
September 1981	250	311	258	241	295	165	350	342
Variation	(+23	(+14	(+15	(+6	(+1	(-7	(+15	(+17
Percentage of variation	(+10.1	(+5.1	(+6.2	(+2.6	(+0.3	(-4.1	(+4.5	(+5.2

4. INDEX NUMBERS OF INDUSTRIAL PRODUCTION.

		YEAR.								(Base Year 1970 = 100.)	
		1971	1972.	1973.	1974.	1975.	1976.	1977.	1978.	1979.	1980.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
General Index	..	119.7	121.7	117.0	128.1	128.0	137.6	143.1	164.1	172.7	182.5
② Estimated.											
5. INDEX NUMBERS OF HAND-LOOM PRODUCTION.											
		(Base : 1970-71 = 100.)									
Variety of cloth.	1971-72.	1972-73.	1973-74.	1974-75.	1975-76.	1976-77.	1977-78.	1978-79.	1979-80.	1980-81	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Cotton	..	110.27	109.33	106.58	103.21	106.10	107.27	101.65	107.82	114.38	115.62
Silk	..	92.02	105.61	90.90	97.79	109.38	108.35	103.62	108.25	120.16	142.86
Artsilk	..	106.62	104.16	102.64	99.68	116.16	137.08	109.27	114.67	132.12	132.79
Mixture	..	104.76	108.72	100.94	103.58	113.34	137.98	131.59	124.71	126.48	134.05
All Varieties	..	109.69	108.99	105.99	102.99	107.01	110.35	103.48	108.99	115.96	117.62

6. INDEX NUMBERS OF WHOLESALE PRICES.

(1970 = 100).

Serial num ber.	Group.	1975	1976	1977	1978	1979	1980
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Primary Articles ..	183.05	171.24	187.73	190.91	203.47	225.74
	(i) Food ..	204.53	177.89	191.10	198.97	210.03	219.60
	(ii) Non-Food ..	147.03	160.09	182.66	178.25	193.59	219.34
	(iii) Minerals ..	176.38	176.38	176.38	176.13	181.52	227.31
2	Fuel Power and Light ..	172.94	185.78	186.05	185.95	216.68	262.44
3	Manufactured Products	156.49	159.11	167.85	170.66	193.12	221.81
	All Commodities Index.	171.02	166.37	178.87	181.83	199.34	225.21

7. CONSUMER PRICE INDEX NUMBERS FOR INDUSTRIAL WORKERS.

(Base 1960 = 100)

Centre.	1976	1977	1978	1979	1980
(1)	(2)	(3)	(4)	(5)	(6)
Madras City	283	306	316	341	377
Cuddalore	289	320	329	352	400
Tiruchirappalli	313	335	358	375	417
Madurai	296	328	335	361	403
Coimbatore	300	317	323	353	405
Nagercoil	330	344	363	401	472
Coonoor	295	312	321	348	394

8. ALL INDIA AVERAGE CONSUMER PRICE INDEX NUMBERS FOR INDUSTRIAL WORKERS.

(Base 1960 = 100)

Item.	1976	1977	1978	1979	1980
(1)	(2)	(3)	(4)	(5)	(6)
All India Average Consumer Price Index Number	296	321	329	350	390

9. CONSUMER PRICE INDEX NUMBERS FOR URBAN NON-MANUAL EMPLOYEES.

(Base 1960 = 100)

Centre.	1976	1977	1978	1979	1980
(1)	(2)	(3)	(4)	(5)	(6)
Madras City	292	307	319	341	378
Madurai	285	291	299	321	362
Tiruchirappalli	282	306	314	331	365

10. CONSUMER PRICE INDEX NUMBERS OF RURAL, TAMIL NADU.

(1970-71 = 100)

<i>Period.</i>	<i>Food.</i>	<i>Fuel and Lighting.</i>	<i>Clothing.</i>	<i>Miscellaneous.</i>	<i>Composite Index.</i>
(1)	(2)	(3)	(4)	(5)	(6)
1980—					
October	224.29	280.64	221.16	229.29	228.25
November	229.43	285.20	223.05	230.74	232.87
December	234.09	289.10	220.58	230.93	236.74
1981—January	235.74	290.18	219.69	234.02	238.33
February	247.56	291.26	222.49	237.39	248.27
March	249.83	291.88	224.25	242.50	250.64
April	251.29	292.58	224.70	244.60	252.04
May.. .. .	254.83	289.23	225.70	244.23	254.68
June	256.86	290.06	230.32	244.82	256.65
July	263.82	297.55	232.26	245.96	262.90
August	272.40	295.84	235.50	244.48	269.70
September	274.91	294.52	233.72	244.39	271.52

11. INDEX NUMBERS OF PRICES.

(1954-55 = 100)

<i>Serial number and Item.</i>	1975	1976	1977	1978	1979	1980
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Index number of Prices received by the farmer	501	378	411	363	392	468
2. Index number of Prices paid by the farmer.	553	507	539	547	607	685
3. Index of parity	91	75	76	66	65	68

12. INDEX NUMBERS OF TOTAL VALUE OF FOREIGN IMPORTS AND EXPORTS.

(Base 1970-71 = 100)

<i>Trade.</i>	1975-76	1976-77	1977-78	1978-79	1979-80
(1)	(2)	(3)	(4)	(5)	(6)
Imports	163	200	180	333	439
Exports	270	313	322	390	443

13. INDEX NUMBERS OF EMPLOYMENT.

(Base 1960 = 100)

<i>Item.</i>	1977	1978	1979	1980
(1)	(2)	(3)	(4)	(5)
Persons registered during the year	197.1	206.2	209.6	244.1
Number of persons placed on Employment during the year ..	73.3	91.3	150.1	144.9
Number of persons on the live register at the end of the year.	719.0	744.5	769.2	864.2

14. INDEX NUMBERS OF NETT STATE DOMESTIC PRODUCT OF TAMIL NADU BY INDUSTRY OF ORIGIN AT CURRENT PRICES.

(Base : 1970-71 = 100)

<i>Serial number and Industry.</i>	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1 Primary Sector	100.00	116.95	117.41	151.61	132.96	135.19	155.41	169.14	175.50	241.85
2 Secondary Sector	100.00	108.91	119.50	134.82	176.86	185.08	214.06	233.59	261.01	304.97
3 Transport, Communication and Trade	100.00	115.09	122.85	153.94	165.37	165.47	196.19	222.76	236.56	280.69
4 Finance and Real Estate	100.00	115.62	130.14	145.69	165.53	196.67	217.09	257.89	260.87	275.01
5 Community and Personal Services	100.00	110.33	117.41	129.72	145.53	155.01	160.05	173.19	189.06	204.35
6 Nett State Domestic Product.. .. .	100.00	113.81	119.71	145.35	153.66	159.29	182.46	200.53	215.61	264.25
7 Per Capita Income	100.00	111.66	115.78	138.59	144.25	147.51	166.72	180.27	191.42	231.56

RE := Revised Estimate; PR, = Partially Revised Estimate; PRLY := Preliminary Estimate ; QE := Quick Estimate.

15. INDEX NUMBERS OF NETT STATE DOMESTIC PRODUCT OF TAMIL NADU BY INDUSTRY OF ORIGIN AT CONSTANT 1970-71.

PRICES (BASE : 1970-71 = 100).

Serial number and industry.	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1 Primary Sector	100.00	107.30	103.97	114.02	82.21	109.49	104.49	120.06	121.95	130.88
2 Secondary Sector	100.00	102.73	105.02	100.75	103.40	115.20	122.36	127.89	141.51	147.86
3 Transport, Communication and Trade	100.00	105.22	107.71	114.21	98.58	113.37	116.18	128.36	134.38	141.15
4 Finance and Real Estate	100.00	109.85	116.04	116.08	115.67	126.53	137.04	147.82	162.75	166.93
5 Community and Personal Services	100.00	100.95	102.34	110.01	114.99	120.15	121.99	128.90	123.00	130.28
6 Nett State Domestic Product	100.00	105.26	105.49	110.34	95.77	113.65	114.82	126.05	131.81	139.23
7. Per Capita Income	100.00	103.26	102.06	105.32	89.88	105.15	104.80	113.38	116.98	121.96

RE := Revised Estimate ; PR := Partially Revised Estimate ; PRLY := Preliminary Estimate ; QE := Quick Estimate.

PART—B

I. CLIMATE AND RAINFALL.

Rainfall.—During the South West Monsoon period, the normal (June 1981 to September 1981). Tamil Nadu had excess rainfall by 32.5 percent more than normal rainfall. The rainfall was excess in all the districts, during this period, except South Arcot, Tirunelveli and the Nilgiris districts where it was normal.

Tamil Nadu experienced excess rainfall in July and September 1981 and normal rainfall in August 1981. In July 1981 there was excess rainfall in all the districts except Coimbatore, Tirunelveli, Kanniyakumari and the Nilgiris districts where it was deficient. In August 1981 the districts of North Arcot, Kanniyakumari and the Nilgiris alone had excess rainfall; the rainfall was normal in Madras, Chengelpattu and Dharmapuri districts and deficient in the remaining districts. The districts of Chingleput and North Arcot recorded normal rainfall in September 1981 while all the other districts had excess rainfall.

Climate.—A trough on sea level chart was running across interior Tamil Nadu during the first and second weeks of July 81. Lower Tropospheric westerly winds were strong over the state on 8th and 9th. Under its influence, isolated rainfall occurred in Tamil Nadu during these weeks except on 3rd and 4th, when the weather was dry. A trough of low pressure laid over South West Bay along and off Tamil Nadu South Andhra coasts from 16th to 18th. An upper air cyclonic circulation also laid over South West Bay of Sri Lanka—Tamil Nadu coasts in the lower tropospheric levels, on most of the days of the third week of July 1981. A trough on sea level chart was passing through interior Tamil Nadu from 19th to 27th. Under the influence of these systems rainfall over Tamil Nadu was fairly widespread on 17th, scattered on 16th and 18th, isolated on the remaining days of the third week. A trough of low pressure laid over South West Bay off Tamil Nadu and Sri Lanka coasts on 28th and 29th. An upper air cyclonic circulation was also seen over South West Bay from 25th onwards which extended upto mid tropospheric levels. Under the influence of these systems rainfall over Tamil Nadu was widespread on 28th, fairly widespread on 23rd and 27th, scattered on 26th and 29th and isolated on 24th and 25th July 1981.

In association with the trough of low pressure over West Central Bay off Orissa coast which later concentrated into a depression, the upper air cyclonic circulation was extending upto 7.6 k.m. a.s.l. sloping South West wards with height over to South Andhra and North Tamil Nadu during 2nd to 5th August 1981. Strong lower tropospheric westerlies prevailed over Tamil Nadu on most of the days of the first fortnight of August 1981. A trough on sea level was running across interior Tamil Nadu on 10th and 11th and also between 15th and 19th August 1981. An upper air trough in lower tropospheric levels moved from South West Bay to Kerala across Tamil Nadu during 24th to 26th. Another upper air cyclonic circulation in the middle tropospheric laid over North Arcot of Tamil Nadu and neighbourhood on 29th and 30th. Tamil Nadu had scattered rainfall on 26th and between 27th to 31st August 1981 and isolated rainfall in the other days of August 1981.

Upto 9th September 1981 a sea level trough was passing through interior Tamil Nadu. An upper air trough in lower tropospheric levels moved from South West Bay to Lakshadweep area across Tamil Nadu between 3rd and 6th. Under the influence of the above systems, scattered rainfall occurred over Tamil Nadu upto 9th September 1981 except on 2nd when it was fairly widespread. A feeble low pressure area laid over South West Bay off Tamil Nadu coast which became well marked on 16th. Associated upper air cyclonic circulation was extending upto mid tropospheric levels. Due to these systems, rainfall over Tamil Nadu was fairly widespread from 11th to 15th, scattered on 16th & isolated on 10th. The low pressure area over South West Bay concentrated into a depression and was centered on 17th morning about 300 k.m. South East of Masulipatnam. Moving north west wards it crossed Andhra Coast between Masulipatnam and Kakinada on 18th after noon. It weakened into a well marked low pressure area and moved away north westwards. Under the influence of this system, lower tropospheric westerlies were strong over the peninsula south of 17 degrees North, resulting in fairly widespread rainfall on 17th and 18th and scattered rainfall during the other days of the third week of September 1981.

1.1. RAINFALL BY DISTRICTS.

District.	July 1981.		August 1981		September 1981		South west monsoon period June to Septem- ber 1981.		Percentage Departure from the Normal.					
	(1)	(2)	(3)		(4)		(5)			(6)	(7)	(8)	(9)	(10)
			Normal.	Actual.	Normal.	Actual.	Normal.	Actual.						
1 Madras	86.6	224.3	113.0	129.4	119.4	182.2	363.7	548.5	(+) 50.8				
2 Chengalpattu	88.9	166.7*	124.4	147.5*	135.3	160.5*	397.7	516.2*	(+) 29.8*				
3 South Arcot	73.6	180.1*	132.5	92.4	141.8	159.9*	391.8	465.2*	(+) 18.7*				
4 North Arcot	87.6	152.6*	132.9	162.4	160.5	200.2	440.1	563.0*	(+) 27.9*				
5 Salem	68.2	123.4*	116.2	89.8	121.6	245.8*	354.9	482.4*	(+) 35.9*				
6 Dharmapuri	63.3	102.5	106.9	95.7	140.1	256.4	366.6	458.5	(+) 25.1				
7 Periyar	33.3	45.9	64.2	37.2	85.6	202.3*	223.0	288.4*	(+) 29.3*				
8 Coimbatore	42.5	21.3*	47.1	27.0	56.5	136.7*	179.2	221.3*	(-) 23.5*				
9 The Nilgiris	378.9	280.1	270.4	453.7	179.8	239.9*	1,061.3	1,228.6	(+) 15.8*				
10 Thanjavur	47.2	146.1*	97.5	55.1	109.8	202.9*	288.7	409.8*	(+) 41.9*				
11 Tiruchirapalli	37.4	83.0*	91.6	57.5	114.0	197.8	273.3	343.0*	(+) 25.5*				
12 Pudukkottai	60.7	137.2*	117.7	88.4*	121.1	192.4*	351.0	424.9*	(-) 21.1*				
13 Madurai	34.6	50.8*	74.7	55.4*	92.4	241.7*	233.2	361.7*	(+) 55.1*				

14 Ramanathapuram	..	..	31.4	120.4	62.3	47.3	69.9	169.6*	185.4	346.1* (+)	86.7*
15 Tirunelveli	..	..	26.4	12.8*	23.3	15.7	30.2	61.9*	109.5	121.6* (+)	11.1*
Kanniyakumari	..	..	132.1	77.9*	89.4	166.6*	97.0	172.7*	546.2	774.9* (+)	41.9*
State	..	..	60.0	105.3*	93.8	83.3*	106.7	187.0*	305.7	405.2* (+)	32.5*

Normal : Average of 50 years rainfall ending with 1950.

Rainfall classification : Excess : \pm 20 per cent and above the normal.

Normal : 19 Per cent to \pm 19 per cent of the normal. Deficient—20 per cent to—59.9 per cent of the normal.

Scanty : 60 per cent and less of the normal.

* Provisional.

Water Supply.—Water supply was just adequate in North Arcot, South Arcot, Thanjavur, Tirunelveli, Dharmapuri, Salem, Coimbatore, Periyar, Ramanathapuram and Kanniyakumari districts.

Water Level.—Due to favourable South-West monsoon rains, almost all the reservoirs in the State had appreciable rise in the water level and the draught conditions are fading out.

12. WATER LEVELS IN SELECT RESERVOIRS.

<i>Name of the Reservoir.</i>	<i>Full depth in metres.</i>	<i>Level as on 4th July 1981.</i>	<i>Level as on 25th July 1981.</i>	<i>Level as on 1st August 1981.</i>	<i>Level as on 29th August 1981.</i>	<i>Level as on 5th September 1981.</i>	<i>Level as on 26th September 1981.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Red Hills	5.85	2.47	2.03	1.95	1.46	1.90	1.12
2 Sholavaram	5.44	..	..	..	..	..	..
3 Poondi	10.06	4.82	4.49	4.66	4.71	4.75	6.49
4 Sathanur	36.27	17.31	19.40	19.70	21.58	13.47	35.61
5 Wellington	8.60	..	..	..	2.44	1.83	6.86
6 Vaigai	21.64	13.14	11.86	12.16	12.89	22.81	18.20
7 Periyar	14.63	6.28	5.56	5.97	9.23	8.76	10.33
8 Papanasam	45.11	31.24	27.16	27.22	29.75	25.08	32.92
9 Manimuthar	35.97	16.85	16.21	16.23	16.82	16.38	19.01
10 Bhavani	32.00	21.33	23.64	21.46	24.30	24.18	25.76
11 Amaravathi	33.53	29.80	26.54	26.69	28.59	27.68	32.33
12 Stanley (Meitun)	36.58	23.73	23.64	22.87	36.71	35.92	36.95
13 Krishnagiri	15.85	7.07	6.58	6.71	10.21	11.76	15.39
14 Pechiparai	14.63	9.39	7.53	6.77	8.56	7.89	7.12
15 Perunchan	23.47	20.73	19.33	18.70	20.14	19.57	21.25

II. AREA AND POPULATION

AREA, POPULATION, DENSITY, LITERACY, ETC.

Tamil Nadu occupies the eleventh rank among the states in India in regard to size with an area of 130,069 sq. kms as per 1971 census. As regard population, Tamil Nadu ranks seventh among the States in India. According to Census 1981, the population of Tamil Nadu is 48,297,456 (provisional) of which 50.6 per cent are males and 49.4 per cent are females. Tamil Nadu occupies second place among the States in the Country in the matter of Urbanisation. The Percentage of Urban population has increased from 30.27 per cent to 32.98 per cent in 1981.

Of the total population in 1981 in Tamil Nadu 18,908,774 persons (39.15 per cent) are classified as main workers, 1,666,597 as marginal workers (3.45 per cent) and 27,722,085 persons as non workers (57.40 Per cent).

Regarding literates, the percentage of literacy has gone up from 39.46 to 45.78 during 1971-81 in Tamil Nadu. Tamil Nadu holds third rank among the states in the Country with regard to literacy rate. Madras City has the highest percentage of literacy viz 66.29 while Dharmapuri has the lowest percentage, i. e., 28.62 among the districts in Tamil Nadu.

The density of population in Tamil Nadu works out to 371 per sq.km. as per 1981 census.

2.1. AREA AND POPULATION BY DISTRICTS.

(As per Census 1981—Provisional).

District.	Area (Sq. km.)	Population.		
		Total.	Rural.	Urban.
(1)	(2)	(3)	(4)	(5)
1 Madras.	130	3,266,034	..	3,266,034
2 Chengalpattu	7,903	3,611,871	2,206,337	1,405,534
3 South Arcot	10,894	4,199,892	3,539,726	660,166
4 North Arcot	12,268	4,402,087	3,387,547	1,014,540
5 Salem	8,650	3,429,822	2,437,772	992,050
6 Dharmapuri	9,622	1,993,290	1,806,203	187,087
7 Periyar	8,209	2,057,496	1,603,558	453,938
8 Coimbatore	7,469	3,051,135	1,510,501	1,540,634
9 The Nilgiris	2,549	628,231	321,747	306,484
10 Thanjavur	8,280	4,057,230	3,121,028	936,202
11 Tiruchirappalli	11,095	3,606,033	2,664,214	941,819
12 Pudukkottai	4,661	1,155,684	1,002,052	153,632
13 Madurai	12,624	4,530,028	2,885,032	1,644,996
14 Ramanathapuram	12,590	3,330,339	2,388,425	941,914
15 Tirunelveli	11,429	3,559,174	2,321,482	1,237,692
16 Kanniyakumari.	1,684	1,419,110	1,173,880	245,230
State	1,30,057	48,297,456	32,369,504	15,927,952

For Periyar district area figures are included in Coimbatore District.

2.2. GROWTH RATE, DENSITY SEX RATIO AND LITERATES.

(As per Census 1931—Provisional).

District/State	Decennial growth rate.	Density per sq. km.	Number of females per 1000 males.	Literacy rate.		
				Persons.	Males.	Females.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Madras.. ..	26.63	*	934	66.29	73.28	58.80
2 Chengalpattu	26.10	457	957	47.00	58.41	35.08
3 South Arcot	16.09	886	973	36.01	48.41	23.27
4 North Arcot	17.21	359	981	39.67	52.16	26.94
5 Salem	14.61	397	950	38.64	49.23	27.49
6 Dharmapuri	18.81	207	961	28.62	38.55	18.28
7 Periyar	14.50	251	953	39.45	50.91	27.42
8 Coimbatore	18.44	400	950	52.27	63.26	40.71
9 The Nilgiris	27.17	246	959	55.75	66.79	44.24
10 Thanjavur	14.29	490	989	48.92	61.16	36.55
11 Thiruchirapalli	12.97	325	987	45.19	57.90	32.31
12 Pudukkottai	21.59	248	1,008	37.93	52.39	23.58
13 Madurai	15.03	359	977	46.58	58.82	34.06
14 Ramanathapuram	16.44	265	1025	44.63	58.19	31.41
15 Thirunelveli	11.21	311	1,044	50.79	61.91	40.14
16 Kanniyakumari	16.08	843	987	62.05	67.14	56.88
State	17.23	371	978	45.78	57.19	34.12

* Not yet available.

Source : Paper I of Population totals—1981.

2.9 SCHEDULED CASTES AND SCHEDULED TRIBES.

<i>District/State.</i>	<i>(1)</i>	<i>Scheduled castes.</i>	<i>Percentage to district population.</i>	<i>Scheduled Tribes.</i>	<i>Percentage to district population.</i>	<i>(As per Census 1971)</i>	
						<i>Scheduled Caste and Scheduled Tribes.</i>	<i>Percentage to district population.</i>
		<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>	<i>(7)</i>
1. Madras	259,118	10.49	928	0.04	260,046	10.53
2. Chengalpattu	763,991	26.28	27,189	0.94	791,180	27.22
3. South Arcot	937,894	25.92	14,105	0.39	951,999	26.31
4. North Arcot	725,885	19.33	70,727	1.88	796,612	21.21
5. Salem	430,317	16.05	94,383	3.15	574,700	19.20
6. Dharmapuri	227,825	13.58	30,123	1.60	257,948	15.38
7. Coimbatore	688,271	15.74	26,021	0.60	714,292	16.34
8. The Nilgiris	92,694	18.76	19,869	4.02	112,563	22.78
9. Thanjavur	808,112	22.76	922	0.03	809,034	22.79
10. Tiruchirappalli	580,211	18.17	14,731	0.46	594,942	18.64
11. Pudukkottai	151,294	15.97	278	0.03	151,572	16.00
12. Madurai	587,874	14.93	6,707	0.17	594,581	15.10
13. Ramanthapuram	459,616	16.07	1,056	0.03	460,672	16.11
14. Tiruchveli	504,956	15.78	1,614	0.05	506,570	15.83
15. Kanniyakumari	47,536	3.89	2,862	0.23	50,398	4.12
STATE	..	7,315,595	17.76	311,515	0.75	7,627,110	18.51

2.4. POPULATION BY CATEGORIES OF WORKERS.

(As per 1981 Census—Provisional).

District/State.	(1)	Total main workers.	Main workers.				Marginal workers.	Non-workers.
			Cultivators.	Agricultural Labourers.	Household Industry manufacturing, processing servicing and repairs.	Other Workers.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Madras	895,029	10,347	5,667	32,874	846,141	45,851	2,325,154
2. Chengalpattu	1,264,612	286,786	409,789	78,722	489,315	119,863	2,227,396
3. South Arcot	1,618,996	622,395	625,675	44,953	325,973	137,148	2,443,748
4. North Arcot	1,706,234	606,411	552,210	111,032	436,581	129,307	2,566,546
5. Salem	1,528,498	473,768	448,343	130,954	475,433	109,506	1,791,818
6. Dharmapuri	835,239	464,066	230,077	15,380	125,716	52,473	1,105,578
7. Periyar	1,014,438	276,824	383,574	60,864	293,176	146,071	896,987
8. Coimbatore	1,325,925	211,482	409,945	60,989	643,509	193,760	1,531,450
9. The Nilgiris	240,042	7,273	14,386	1,037	217,346	3,270	384,919
10. Thanjavur	1,475,382	367,019	678,851	42,944	386,568	99,665	2,482,183
11. Tiruchirappalli	1,475,262	576,703	461,226	62,001	375,332	109,336	2,021,435
12. Pudukkottai	416,204	232,317	86,105	8,894	88,888	56,378	683,102
13. Madurai	1,917,626	499,709	749,649	64,598	603,670	165,071	2,447,331
14. Ramanathapuram	1,359,721	521,792	336,193	72,362	429,374	209,367	1,761,251
15. Tirunelveli	1,453,469	355,688	418,484	160,011	519,286	61,264	2,044,441
16. Kannyakumari	382,097	46,226	137,440	21,051	177,380	28,267	1,008,746
TAMIL NADU	18,908,774	5,558,806	5,947,614	968,666	6,433,688	1,666,597	27,722,085

III. AGRICULTURE

Index Numbers of Agricultural Economy.—The index of area under crops has increased by 3.4 points from 107.2 in 1978-79 to 110.6 in 1979-80. The index of cropping intensity has increased by 3.2 points from 103.2 in 1978-79 to 106.4 in 1979-80. There is no change in the index of cropping pattern in 1979-80 as compared to 1978-79.

The index of yield has increased by 3.0 points from 130.6 in 1978-79 to 133.6 in 1979-80. The index of productivity per nett hectare has increased by 7.8 points from 142.2 in 1978-79 to 150.0 in 1979-80. The index of agricultural production has increased by 8.1 points from 147.7 in 1978-79 to 155.8 in 1979-80.



3.1. INDEX NUMBERS OF AGRICULTURAL ECONOMY.

(Base Triennium ending 69—70=100).

Group.	Index number of area under crops.			Index number of yield.		
	1977-78.	1978-79.	1979-80.	1977-78.	1978-79.	1979-80.
	(P)			(P)		
Food Group :						
Cereals	105.5	101.5	104.8	133.8	133.6	143.2
Pulses	136.8	148.4	178.1	123.1	131.2	135.1
Total Food Group ..	108.0	105.3	109.9	133.5	133.5	142.9
Non-Food Group :						
Oil Seeds	104.7	108.1	107.1	124.4	123.6	118.7
Fibre	114.5	122.5	105.7	152.5	150.7	144.1
Plantation Crop	125.5	128.0	128.0	112.5	124.7	124.7
Condiments and Spices ..	130.3	173.7	177.7	73.0	71.0	71.2
Fruits and Vegetables	114.1	118.1	123.2	151.5	157.1	151.6
Total Misc. Groups	117.2	109.6	116.8	114.7	139.3	141.3
Non-Food Group	108.3	112.4	112.8	121.8	128.2	126.0
General	100.0	107.2	110.6	127.0	130.6	133.6

Group.	Index number of Agricultural production.			Index number of cropping pattern.		
	1977-78.	1978-79.	1979-80.	1977-78.	1978-79.	1979-80.
	(P)			(P)		
Food Group :						
Cereals	144.7	141.2	156.3	102.5	104.1	104.4
Pulses	210.2	241.3	293.9	124.8	123.8	127.8
Total Food Group	146.1	143.3	159.2	101.3	101.9	101.4
Non-Food Group :						
Oil Seeds	133.5	135.5	133.3	102.5	101.5	105.1
Fibre	174.6	184.5	152.2	100.0	99.9	99.9
Plantation Crop	142.8	156.5	136.5	101.	98.1	98.1
Condiments and Spices ..	95.9	127.6	130.4	100.7	103.5	103.6
Fruits and Vegetables	174.4	190.3	188.6	100.8	102.7	101.0
Total Misc. Groups	135.8	153.0	165.5	101.0	100.2	100.4
Non-Food Group	139.5	151.5	152.9	105.2	105.2	107.7
General	142.6	147.7	155.8	103.9	105.5	105.5

	1977-78.	1978-79.	1979-80. (Provisional)
Index number of Nett area sown	104.7	103.9	103.9
Index number of cropping intensity ..	103.2	103.2	106.4
Index number of Productivity per Nett Hectare. ..	136.0	142.2	150.0
	P—Provisional		

INDEX NUMBERS OF WAGES PAID TO CERTAIN CATEGORIES OF AGRICULTURAL
LABOURERS.

The index numbers for Agricultural wages paid during the quarter ended in September 1981 showed a rising trend in respect of 'Men' labourers under "Ploughmen", "Reapers and Harvesters" "Tending Cattle", and "Other agricultural labourers" and also for women labourers under, 'Transplanters and Weeders', "Reapers and harvesters" and "Other agricultural labourers".

It is also noticed that the Index numbers for men labourers under 'Transplanters and Weeders' and for women labourers under "Tending Cattle", showed a decreasing trend.

The increase in index numbers is ranged from 1 point to 23 points and the decrease is from 7 points to 8 points.

The maximum increase is noticed in respect of men labourers under 'ploughmen' and the maximum decrease is observed for men labourers under "Transplanters and Weeders".



1.2. INDEX NUMBERS OF WAGES PAID TO CERTAIN CATEGORIES OF AGRICULTURAL LABOURERS.
(Base 1970=100)

Year/Month.	Transplanters and weeder.			Reapers and harvesters.		Tending Cattle.		Other agricultural labourers.	
	Men.	Women.	(3)	Men.	Women.	Men.	Women.	Men.	Women.
1981	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
January ..	291	268	279	279	272	276	291	238	328
February ..	274	268	289	267	251	261	290	186	333
March ..	289	272	231	246	220	223	301	165	336
April ..	307	277	277	240	267	245	276	165	340
May ..	318	277	277	267	268	254	295	165	333
June ..	333	278	278	267	268	254	295	165	340
July ..	312	297	291	267	268	254	295	165	336
August ..	301	291	267	268	254	254	295	165	348
September ..	319	286	268	254	254	254	295	165	341

Salient features of Crop prospects.—Water supply for irrigation was adequate in all the districts except Chengalpattu, North Arcot and Ramanathapuram districts.

Ploughing and sowing operations were in progress in all the districts except Pudukkottai, Tirunelveli and the Nilgiris. Ploughing and sowing activities for cultivation of rainfed crops were in progress in certain parts of South Arcot, Coimbatore, Pudukkottai and Ramanathapuram districts.

Transplantation was completed in the districts of Dharmapuri and Tirunelveli. Transplantation of paddy was in progress in the districts of South Arcot, North Arcot, Coimbatore, Pudukkottai, Tirunelveli and Madurai.

The condition of the standing crops was fair in all the districts except Madurai.

Paddy harvest was reported to be fair in the districts of South Arcot, Thanjavur, Ramanathapuram, Coimbatore, Kanyakumari and Tirunelveli. Harvest of Cumbu and Ragi was also reported to be fair in the districts of South Arcot, Salem, Coimbatore and Ramanathapuram. The out turn of Sugarcane was reported to be normal in the districts of Salem and Ramanathapuram. The Groundnut yield was normal in South Arcot and Madurai districts.



3.3 SUMMARY OF FORECAST ON CERTAIN CROPS

Name of crop.	Name of the report.	(2)	Area in hectares,		Variation of col. (3) over col. (4).	Production in tonnes,		Variation Col. (6) over col. (7).	Remarks.
			1980-81.	1979-80.		1980-81.	1979-80.		
			(3)	(4)	(5)	(6)	(7)	(8)	(9)
1) Garlic	First and final	510	570	(-) 10.5	2,830	3,330	(-) 15.0	
2 Onion	Do.	19,740	21,970	(-) 10.2	1,96,420	2,38,810	(-) 17.8	
3 Sweet Potato	Do.	4,160	4,520	(-) 8.0	41,070	44,270	(-) 7.2	
4 Tapioca	Do.	52,200	60,970	(-) 14.4	15,39,720	16,72,180	(-) 7.9	
5 Sanna	Third and final	4,810	4,470	(+) 7.7	3,510	2,890	(+) 14.5	
6 Banana	At-hocesi	55,450	63,520	(-) 12.7	12,16,200	13,93,190	(-) 12.7	
7 Indigo-dyes	Do.	1,770	1,700	(+) 6.1	510	490	(+) 4.1	
8 Indigo-green Manure	Do.	1,090	1,150	(-) 5.2	..	71	..	
9 Cloves	Do.	640	520	(+) 23.1	380	710	(+) 23.5	

IV. INDUSTRIES.

INDUSTRIAL PRODUCTION BY PRODUCTS.

The Industrial production under the registered manufacturing sector decreased by (10.0) per cent or 20.6 points during the quarter ended June 1981 as the average general index Base 1970=(100) decreased from 206.3 during the quarter ended March 1981 to 185.7 during the quarter ended June 1981.

Significant increases in output were observed in respect of Refined oil (79.0 per cent) Tea (Processed) (67.1 per cent), Tyres (3.4 per cent) Transformers (67.9 per cent) and Synthetic gemstones (77.8 per cent).

Significant decreases in output were also noticed in respect of sugar (refined) (66.9 per cent) Ammonia (15.4 per cent) High speed diesel Oil (23.0) Urea (16.6 per cent) Superior Kerosene (5.3 per cent) Pesticides (19.1 per cent) and Non-ferrous (Metal) (27.0)



4.1—INDUSTRIAL PRODUCTION BY PRODUCTS

Serial number and name of the Product.							Production during quarter ended.			Total.	
							January 1981.	February 1981.	March 1981.		
							(R)	(R)	(R)		
(1)							(2)	(3)	(4)	(5)	(6)
Mining—											
1	Lignite	..	..	..	Tonne	..	3,85,000	5,90,000	5,11,000	12,86,000
2	Bauxite	..	..	..	"	..	7,000	12,305	8,980	28,284
3	Limestone	..	..	..	"	..	4,75,000	3,10,000	3,67,000	11,52,000
4	Magnesite	..	..	..	"	..	22,736	25,133	8,781	76,650
5	Gypsum	..	..	..	"	..	2,736	4,942	6,008	13,686
Manufacturing—											
6	Sugar (Refined)	..	..	..	"	..	77,273	89,230	94,050	2,60,553
7	Hydrogenated Oil (Vanaspathi)	..	..	..	"	..	1,413	1,414	1,931	4,758
8	Refined Oil	..	..	..	"	..	140	177	179	496
9	Tea (Processed)	..	..	..	"	..	5,220	4,222	4,450	13,892
10	Coffee (Cured)	..	..	..	"	..	802	896	1,189	2,887
11	Cotton Yarn	..	..	..	"	..	19,581	17,221	16,978	53,780
12	Cotton Woven Piece Goods	..	..	..	"000" Metres.	..	10,921	9,560	10,199	30,680
13	Printing Paper	..	..	..	Tonne.	..	2,699	2,329	2,610	7,638
14	Tyres (all types)	..	..	..	Number.	..	3,69,340	4,21,411	4,68,915	12,59,666
15	Tubes (all types)	..	..	..	"	..	2,67,724	2,01,963	2,24,931	6,94,618
16	Superior Kerosene	..	..	..	Tonne.	..	36,321	23,784	31,335	91,440
17	High Speed diesel Oil	..	..	..	"	..	54,514	56,173	58,847	1,69,534
18	Ammonia	..	..	..	"	..	55,124	46,853	51,685	1,53,662
19	Caustic Soda	..	..	..	"	..	6,651	6,764	6,867	20,282
20	Urea	..	..	..	"	..	91,572	77,283	87,098	2,55,953
21	Super phosphate	..	..	..	"	..	10,211	9,417	12,407	32,035
22	Mixed fertilizers	..	..	..	"	..	71,713	67,559	74,472	2,13,744
23	Pesticides	..	..	..	"	..	1,545	974	971	3,490
24	Paints and enamels	..	..	..	Kg.	..	4,91,287	4,90,814	5,47,159	15,29,310
25	Varnishes	..	..	..	Litre.	..	17,582	19,744	8,255	45,581
26	Safety matches	..	..	..	Gross Boxes.	..	78,59,226	77,70,941	79,88,363	2,35,78,530
27	Refractories	..	..	..	Tonne.	..	12,723	12,522	15,032	40,277
28	Cement	..	..	..	"	..	2,77,368	2,35,532	2,99,473	8,12,373
29	Asbestos Cement Product	..	..	..	"	..	6,917	6,270	6,182	19,369
30	Coated abrasives	..	..	..	Reams.	..	7,443	6,551	7,591	21,485
31	Bonded abrasives	..	..	..	Tonne.	..	374	362	355	1,091
32	Iron and Steel (Metal)	..	..	..	"	..	11,794	11,757	12,636	35,587
33	Castings (Iron and Steel)	..	..	..	"	..	4,212	4,523	5,187	13,922
34	Non-Ferrous (Metal)	..	..	..	"	..	2,187	2,033	1,747	5,967
35	Metal container caps and closures.	..	..	..	"	..	916	933	1,621	2,470
36	Tractor	..	..	..	Number	..	505	838	839	2,182

Serial number and name of the Product.	Unit.	4.1— <i>cuotd.</i> Production during quarter ended 30th June 1981.			Total.	Percentage increase. (or) decrease over previous quarter.
		April 1981.	May 1981.	June 1981.		
		(R)	(R)	(R)		
(1)	(2)	(7)	(8)	(9)	(10)	(11)
<i>Mining</i>						
1 Lignite	Tonne.	4,71,000	5,33,000	5,46,000	15,50,000	(+)20.5
2 Bauxite	„	14,413	10,755	15,692	40,860	(+)44.4
3 Limestone	„	3,18,000	3,11,000	3,64,000	9,93,000	(-)13.8
4 Magnesite	„	27,568	27,350	31,418	86,336	(+)12.6
5 Gypsum	„	6,192	3,157	4,240	13,589	(-)0.7
<i>Manufacturing</i>						
6 Sugar (Refined)	„	56,891	25,150	4,238	86,279	(-)66.9
7 Hydrigneated (Vanaspathi)	„	1,844	1,781	1,817	5,442	(+)14.4
8 Refined Oil	„	249	282	357	888	(+)79.0
9 Tea (Processed)	„	8,963	8,425	5,830	23,218	(+)67.0
10 Coffee (Cured)	„	1,224	1,111	1,428	3,763	(+)30.3
11 Cotton Yarn	„	15,724	16,646	18,073	50,443	(-)6.2
12 Cotton Woven Piece Goods...	000 Metres.	9,731	10,281	10,995	31,007	(-)11.1
13 Printing Paper	Tonne.	3,051	1,828	2,071	6,950	(-)9.0
14 Tyres (all types)	Number.	3,81,123	3,31,494	5,89,448	13,02,065	(+)3.4
15 Tubes (all types)	„	2,07,964	1,88,188	2,98,809	6,94,961	(+)0.04
16 Superior Kerosene	Tonne.	20,229	21,250	45,132	86,611	(-)5.3
17 High Speed Diesel Oil	„	27,681	44,684	58,140	1,30,505	(-)23.0
18 Ammonia	„	36,717	45,558	47,729	1,30,034	(-)15.4
19 Caustic Soda	„	6,752	6,722	6,635	20,109	(-)0.9
20 Urea	„	60,608	76,178	76,634	2,13,420	(-)16.6
21 Super Phosphate	„	13,155	14,917	16,268	44,340	(+)34.2
22 Mixed Fertilizers	„	66,997	71,199	71,701	2,09,897	(-)1.8
23 Pesticides	„	845	1087	892	2,824	(-)19.1
24 Paints and Enamels	Kg.	6,68,367	6,74,859	76,34,14	21,06,640	(+)37.8
25 Varnishes	Litre.	19,861	17,874	18,569	56,304	(+)24.1
26 Safety matches	Gross Boxes.	78,73,304	70,98,102	76,10,656	2,25,82,062	(+)4.2
27 Refractories	Tonne.	14,767	15,290	13,835	43,492	(+)6.9
28 Cement	„	2,24,285	2,30,263	2,34,850	6,89,398	(-)15.1
29 Asbestos Cement Product	„	6,338	6,341	6,614	19,293	(-)0.4
30 Coated Abrasives	Reams.	4,880	5,110	6,007	16,197	(-)24.6
31 Bonded Abrasives	Tonne.	427	402	338	1,167	(+)7.0
32 Iron and Steel (Metal)	„	11,879	10,077	11,879	38,835	(-)4.9
33 Castings (Iron and Steel)	„	4,868	4,464	4,745	14,077	(+)1.
34 Non-Ferrous (Metal)	„	1,368	1,535	1,472	4,375	(-)27.0

41. *contd.*

(1)	(2)	(3)	(4)	(5)	(6)
37. Earth moving Machinery-Number		Nil	13	15	28
38. High Pressures, Boilers and Tonne Fittings.		11,542	12,499	12,500	36,541
39. Diesel Engines Number.		4,046	4,661	5,586	14,293
40. Textile Frames „		192	117	198	507
41. Power Driven Pumps „		16,235	15,167	17,179	48,581
42. Typewriters „		2,689	2,998	3,464	9,151
43. Transformers KVA.		20,100	36,425	43,270	99,795
44. Electric Motors Number.		14,352	14,357	15,980	44,689
45. Dry Cells „		92,46,203	1,01,50,788	1,00,11,527	2,94,08,518
46. Railway Coaches „		58	60	63	181
47. Railway Wagons „		36	97	88	221
48. Completed Motor Vehicles „		316	316	354	986
49. Motor Vehicles Chassis „		886	1,140	1,256	3,282
50. Body Building „		192	184	205	581
51. Motor Cycles „		1,984	2,026	2,131	6,141
52. Bicycles „		28,815	42,539	49,093	1,20,447
53. Synthetic Gemstones Kg.		Nil	427	1,113	1,540
54. Electricity Generated M. K. Watt.		882,898	846,423	885,547	26,14,868

R — Revised.

P — Provisional.

4.1—Cont.

35. Metal Constrainers caps and & closures	Tonne.	846	872	914	2,632	(—)	8.2
36. Tractors .. .	Number.	713	800	821	2,334	(+)	7.0
37. Earth moving Medinery ..	„	13	13	4	30	(+)	7.1
38. High Pressures, Boilers and Fittings	Tonne.	4,858	6,930	8,777	20,565	(—)	43.5
39. Diesel Engines	Number.	4,596	4,648	4,619	13,853	(—)	3.0
40. Textile Frames	„	143	118	137	398	(—)	21.7
41. Power Driven Pumps ..	„	15,213	13,888	13,038	42,139	(—)	13.3
42. Typewriters	„	3,250	2,968	2,597	8,775	(—)	4.1
43. Transformers	KVA	39,554	53,650	74,361	1,67,565	(+)	67.9
44. Electric Motors	Numder.	10,037	15,148	15,734	45,919	(+)	2.8
45. Dry Cells	„	1,03,44,163	93,15,598	96,64,067	2,93,23,828	(—)	0.3
46. Railway Coaches	„	58	61	61	180	(—)	0.6
47. Railway Wagons	„	55	68	65	188	(—)	14.9
48. Completed Motor Vehicles ..	„	345	354	400	1,099	(+)	11.5
49. Motor Vehicles Chassis ..	„	1,267	1,075	1,260	3,602	(+)	9.8
50. Body Building	„	175	194	181	550	(—)	5.3
51. Motor Cycles	„	3,387	3,940	4,223	11,550	(+)	181.9
52. Bicycles	„	50,257	47,395	52,810	150,462	(+)	24. 8
53. Syntheric Gemstones ..	Kg.	867	988	883	2,73 8	(+)	77.8
54. Electricity Generated Million	KWH.	827,863	815,920	811,725	2455,508	(—)	6.1

4.2. INDEX NUMBERS OF INDUSTRIAL PRODUCTION (1970=100).

Serial Number.	Code Number.	Name of groups of Industries.	Weight.	Index numbers			Average for the quarter ended March 1981.
				January 1981 (R).	February 1981 (R).	March 1981 (R).	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		<i>I. Mining</i>	3 524	129.7	121.5	152.6	134.6
1	10	Coal Mining	2.278	130.3	132.0	173.0	145.1
2	12	Metal Ore mining	0.041	100.0	173.2	126.8	133.3
3	19	Other Mining	1.205	129.6	99.8	115.0	114.8
		<i>II. Manufacturing</i>	81.025	203.1	208.0	223.2	211.4
4	20-21	Manufacture of Food Products.	7.263	157.7	153.5	170.9	160.7
5	22	Manufacture of Beverages, Tobacco and Tobacco Products	0.461	100.0	116.9	136.7	117.9
6	23	Manufacture of Cotton Textiles. ..	18.765	127.5	112.1	111.0	116.9
7	24	Manufacture of Wool Silk and Synthetic Fibre Textiles ..	0.476	175.6	175.0	191.0	180.5
8	28	Manufacture of paper and paper products and Printing Publishing and Allied Industries	1.540	214.1	194.6	216.6	208.4
9	30	Manufacture of Rubber Plastic petroleum and Coal products.	4.873	133.6	119.4	139.7	130.9
10	31	Manufacture of Chemicals and Chemical products (except products and petroleum and coal)	4.366	450.6	433.1	507.9	463.9
11	32	Manufacture of Non-Metallic Mineral Products	4.745	141.3	131.6	156.2	143.0
12	33	Basic Metal and Alloy Industries.	5,357	150.8	164.0	178.9	164.6
13	34	Manufacture of Metal Products and parts except Machinery and Transport equipment ..	1,668	173.4	168.3	193.0	178.2
14	35	Manufacture of machinery, machines tools and parts except electrical machinery ..	11.201	435.7	463.6	492.5	463.9
15	36	Manufacture of Electrical Machinery apparatus, appli- ances and supplies and parts	6,059	209.5	258.6	235.0	234.4
16	37	Manufacture of Transport Equipment and Parts : ..	12.415	151.7	171.2	188.6	170.5
17	38	Other Manufacturing Industries.	1,836	21.9	31.9	38.7	30.8
18	40	<i>III. Electricity</i>	15,451	198.1	189.9	198.7	195.6
		General Index		199.7	202.2	216.9	206.3

R — Revised.

P — Provisional.

4*2—*contd.*

Serial Number.	Code Number.	Name of groups of Industries.	Weight.	Index Numbers.			Average for the quarter ended June 1981.
				April 1981 (P).	May 1981 (P).	June 1981 (P).	
(1)	(2)	(3)	(4)	(9)	(10)	(11)	(12)
		<i>I. Mining</i>	3,524	140.9	152.8	161.4	151.7
1	10	Coal Mining	2,278	159.4	180.4	184.8	174.9
2	12	Metal Ore Mining	0.041	204.9	151.2	222.0	192.7
3	19	Other Mining	1,205	103.7	100.8	115.1	106.5
		<i>II. Manufacturing</i>	81,025	176.7	187.5	198.7	187.6
4	20-21	Manufacture of Food products.	7,263	168.8	144.0	110.2	141.0
5	22	Manufacture of Beverages Tobacco and Tobacco Products	0.461	121.9	151.4	143.8	139.0
6	23	Manufacture of Cotton Textiles.	18,765	103.0	109.1	118.3	110.1
7	24	Manufacture of Wool Silk and Synthetic Fibre Textiles ..	0.476	176.9	189.3	193.5	186.6
8	28	Manufacture of Paper and Paper products and Printing Publishing and Allied Industries	1,540	214.7	223.6	208.2	215.5
9	30	Manufacture of Rubber Plastic Petroleum and Coal Products	4,873	98.3	106.9	144.2	116.5
10	31	Manufacture of Chemicals and Chemical Products (except products of Petroleum and coal)	4,366	376.6	420.3	456.8	417.9
11	32	Manufacture of Non-Metallic Mineral Products	4,745	133.4	138.8	140.6	137.6
12	33	Basic Metal and Alloy Industries.	5,357	155.9	154.1	166.4	158.8
13	34	Manufacture of Metal Products and parts except Machinery and Transport equipment ..	1,668	177.8	187.1	181.5	182.1
14	35	Manufacture of machinery, machine tools and parts except electrical machinery ..	11,201	264.0	317.2	372.0	317.7
15	36	Manufacture of Electrical machinery apparatus, appli- ances and supplies and parts	6,059	243.2	256.4	239.7	246.3
16	37	Manufacture of Transport Equipment and parts ..	12,415	185.6	181.9	189.3	185.6
17	38	Other Manufacturing Industries.	1,836	35.5	41.6	37.6	38.2
18	40	<i>III Electricity</i>	15,451	185.8	183.1	182.1	183.7
		General Index ..		176.8	185.6	194.8	185.7

V. HANDLOOM.

The Production of handloom cloth in Tamilnadu during the quarter ended June 1981 was estimated at 173,635,000 metres as against 170,568,000 metres during the previous quarter registering an increase of 1.80 per cent.

Considering the rate of increase during the quarter under review and the previous quarter it is presumed that the industry is well set in motion during the year.

Among the different varieties of cloth produced sarees accounted for 31.79 percent and dhoties, towels and lungies for 12.99 per cent, 20.47 per cent and 10.50 percent respectively. The remaining 24.25 per cent of the production was shared by shirting, bedspreads, carpets, gada, etc.

Out of the total production, Cotton fabrics have accounted for 87.78 per cent followed by Artsilk, mixture of Cotton and artsilk and silk fabrics with 6.15 per cent, 5.20 per cent and 0.87 per cent respectively.



5.1. PRODUCTION OF HANDLOOM CLOTH.

Variety of Cloth.									'000' Metres.		
									Quarter ended December	Quarter ended March	Quarter ended June
									1980.	1981,	1981.
(1)									(2)	(3)	(4)
A. Cotton—											
1. Dhoties									18,605	21,322	22,346
2. Sarees									35,460	34,937	36,051
3. Towels									37,714	35,739	35,575
4. Handkerchiefs									842	810	960
5. Lungies									14,568	16,404	18,099
6. Bedspreads									8,392	7,933	7,441
7. Angavastrams									1,982	1,911	1,891
8. Shirtings									5,805	5,839	5,459
9. Coatings									365	242	310
10. Gada									6,806	6,260	6,254
11. Carpet									11,343	11,152	10,950
12. Curtain Cloth									959	912	908
13. Pillow cover									1,297	1,230	1,222
14. Pavadai and Dhavani									2,105	2,470	2,511
15. Others									2,557	2,436	2,409
Total ..									1,48,800	1,49,597	1,52,416
B. Silk—											
1. Dhoties									140	167	155
2. Sarees									1,236	1,197	1,264
3. Angavastrams .. .. .									..	..	..
4. Pavadai and Dhavani									68	69	62
5. Others									69	41	38
Total ..									1,513	1,474	1,519
C. Art Silk—											
1. Dhoties									24	23	56
2. Sarees									9,068	9,268	8,944
3. Lungies									177	147	132
4. Pavadai and Dhavani									23	15	51
5. Others									1,192	1,049	1,486
Total ..									10,484	10,502	10,669
D. Mixture of Artsilk and Cotton—											
1. Dhoties .. .. .									..	..	..
2. Sarees									8,939	8,959	8,932
3. Others									104	36	99
Total ..									9,043	8,995	9,031
Grand Total ..									1,69,840	1,70,568	1,73,635

VI. JOINT STOCK COMPANIES.

During the quarter ended September 1981, 20 public and 165 private companies were newly registered as against 12 public and 140 private companies during the previous quarter.

The total authorised capital of newly registered public and private companies during the quarter ended September 1981 was 3,431.64 lakhs as against Rs. 1,928.00 lakhs during the previous quarter.

During the quarter under review 4 companies went where as no company went in to liquidation during the previous quarter.

7

6.1. NEW REGISTRATION AND LIQUIDATION OF JOINT STOCK COMPANIES.

New Registration.									
Month.				Number of companies.			Authorised Capital.		
				Public.	Private.	Total.	Public.	Private.	Total.
(1)				(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN LAKHS.)									
July 1981	..	..	..	6	72	78	100.99	482.75	583.74
August 1981	..	..	..	6	51	57	810.00	475.20	1,285.20
September 1981	..	..	..	8	42	50	1,230.20	332.50	1,562.70
Total			..	20	165	185	2,141.19	1,290.45	3,431.64

Liquidation.									
Month.				Number of Companies.			Authorised Capital.		
				Public.	Private.	Total.	Public.	Private.	Total.
(1)				(8)	(9)	(10)	(11)	(12)	(13)
RUPEES IN LAKHS									
July 1981	..	..	..	..	..	..	..	..	..
August 1981	..	..	..	1	3	4	0.50	18.00	18.50
September 1981	..	..	..	..	..	..	..	..	..
Total			..	1	3	4	0.50	18.00	18.50

6.2 INDUSTRIAL BREAKUP OF NEW REGISTRATION OF JOINT STOCK COMPANIES.

Industrial Classification.	Number of Companies.					
	July 1981.			August 1981.		
	Public.	Private.	Total.	Public.	Private.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
0 Agricultural and allied activities	..	1	1	..	4	4
1 Mining and Quarrying ..	..	..	..	..	..	..
2 Processing and manufacturing of food stuff, textiles leather products thereof;	..	18	18	..	9	9
3 Processing and Manufacturing Metal Chemical and Products thereof.	3	22	25	3	19	22
4 Processing and manufacturing not elsewhere classified	..	3	3	..	5	5
5 Construction and Utilities ..	..	..	..	..	2	2
6 Commerce (Trade and Finance)	..	2	2	3	5	8
7 Transport and Communication Services	3	17	20	..	..	..
8 Community and Business Services	..	7	7	..	3	3
9 Personal and Other Services	..	2	2	..	4	4
Total	6	72	78	6	51	57

Industrial Classification	Number of Companies.			RUPEES IN LAKHS. Authorised Capital.		
	September 1981			July 1981		
	Public.	Private.	Total.	Public.	Private.	Total.
(1)	(8)	(9)	(10)	(11)	(12)	(13)
0 Agricultural and allied activities	..	3	3	..	15.00	15.00
1 Mining and Quarrying ..	..	..	..	..	..	..
2 Processing and manufacturing of food stuff, textile, leather products thereof	3	10	13	..	172.00	172.00
3 Processing and manufacturing Metal Chemical and Products thereof	4	9	13	70.00	100.50	170.50
4 Processing and manufacturing not elsewhere classified ..	..	..	3	..	11.00	11.00
5 Construction and Utilities	..	..	..	..	..	..
6 Commerce (Trade and Finance)	1	12	13	30.99	135.00	165.99
7 Transport and Communication Services.	..	..	..	..	15.00	15.00
8 Community and Business Services	..	1	1	..	23.25	23.25
9 Personal and Other Services	..	2	2	..	11.00	11.00
Total	8	42	50	100.99	482.75	583.74

Industrial Classification (1)	Authorised Capital					
	August 1981			September 1981		
	Public. (14)	Private. (15)	Total. (RUPEES IN LAKHS) (16)	Public. (17)	Private. (18)	Total. (19)
0 Agricultural and allied activities	..	85.00	85.00	..	40.00	40.00
1 Mining and Quarrying ..	..	..	..	..	..	..
2 Processing and manufacturing of food stuff, textiles leather products thereof.	..	96.50	96.50	150.20	118.50	268.70
3 Processing and manufacturing Metal Chemical and Products thereof.	60.00	179.20	239.20	1,070.00	41.50	1,111.50
4 Processing and manufacturing Not elsewhere classified.	..	16.00	16.00	..	13.00	13.00
5 Construction and Utilities ..	..	10.50	10.50	..	15.00	15.00
6 Commerce (Trade and Finance)	750.00	24.00	774.00	10.00	95.50	105.50
7 Transport and Communication Services	..	..	..	..	..	..
8 Community and Business Services	..	6.00	6.00	..	3.00	3.00
9 Personal and Other Services	..	58.00	58.00	..	6.00	6.00
Total	810.00	475.20	1,285.20	1,230.20	332.50	1,562.70

VII. ELECTRICITY.

GENERATION, CONSUMPTION AND RURAL ELECTRIFICATION.

During the quarter ended September 1981 the generation of Electricity was 2070 million units as against 1471 million units during the previous quarter.

The total consumption of electricity/decreased from 2149 million units during the quarter ended March 1981 to 2005 million units during the quarter ended June 1981.

During the quarter ended September 1981 Town Village hamlets was electrified but 6502 agricultural pumpsets were energised.

7.1 GENERATION OF ELECTRICITY-QUARTER ENDED 30TH SEPTEMBER 1981)

Serial number and name of the Power Houses.						Units Generated.	Used on Auxiliaries.	Net Units.
(1)						(2)	(3)	(4)
1	Pykara	..	..	..	..	85,772,400	319,724	85,452,676
2	Moyar	..	..	..	..	31,524,500	135,557	31,388,943
3	Mettur	..	..	..	..	59,107,900	526,430	58,581,470
4	Mettur Tunnel	..	..	..	..	321,547,000	484,150	321,062,850
5	Papanasam	..	..	..	..	54,792,900	161,740	54,631,160
6	Periyar	..	..	..	..	166,807,000	565,760	166,241,240
7	Kundah I	..	..	..	..	34,196,000	141,000	34,055,000
8	Kundah II	..	..	..	..	110,044,000	169,000	109,875,000
9	Kundah III	..	..	..	..	61,407,000	409,600	60,997,400
10	Kundah IV	..	..	..	..	90,972,400	72,098	90,900,302
11	Kundah V	..	..	..	..	16,530,000	56,290	16,473,710
12	Sarkarpathy	..	..	..	..	41,145,000	28,371	41,116,629
13	Aliyar	..	..	..	..	93,910,000	173,170	93,736,830
14	Kodayar I	..	..	..	..	2,576,000	40,670	2,535,330
15	Kodavar II	..	..	..	..	15,575,000	54,616	15,520,384
16	Suruliar	..	..	..	..	44,831,000	153,920	44,677,080
17	Sholayar I	..	..	..	..	128,732,400	229,178	128,503,222
18	Sholayar II	..	..	..	..	54,132,000	130,670	54,001,330
19	M.E.S (Generation) BBPH	..	..	..	..	56,280,360	9,852,740	46,427,620
20	Ennore	..	..	..	..	362,370,000	53,612,100	308,757,900
21	T. T. P. S.	..	..	..	..	237,845,000	29,564,000	208,281,000
Total						2,070,097,000	96,880,734	1,973,217,076

7.2 POWER PURCHASED(QUARTER ENDED 30TH SEPTEMBER 1981.

						(IN MILLION UNITS.)	
<i>Serial number and Sources</i>						<i>Import.</i>	<i>Export.</i>
(1)						(2)	(3)
1	Neyveli Lignite Corporation	..	..	..	..	577.489	..
2	Kerala Electricity Board	..	..	..	..	193.242	..
3	Andhra Pradesh Electricity Board	..	..	..	..	24.700	9.300
4	Karnataka Electricity Board	..	..	..	..	34.400	29.900
5	Madras Refineries	..	..	..	..	1.810	..
Total						831.641	39.200

7.3 CONSUMPTION OF ELECTRICITY.

<i>Serial number and Category,</i>						<i>During the Quarter Ended</i>	
						<i>March '81</i>	<i>June '81</i>
(1)						(2)	(3)
1	Domestic	..	..	..	..	193.482	205.949
2	Commercial	..	..	..	..	121.645	120.431
3	Industrial	..	..	..	..	950.843	882.527
4	Public Lighting	..	..	..	..	20.397	18.047
5	Agriculture	..	..	..	..	645.411	555.262
6	Water Works	..	..	..	..	19.308	20.016
7	Sales to Licensees	..	..	..	..	49.964	53.373
8	Sales to other States	..	..	..	..	69.996	82.702
9	Miscellaneous	..	..	..	..	67.836	66.700
Total						2,148.882	2005.307

7.4 RURAL ELECTRIFICATION.

<i>Serial number and particulars.</i>				<i>As on</i>	<i>During</i>	<i>As on</i>
				<i>30-6-1981</i>	<i>1-7-1981</i>	<i>30-9-1981</i>
					<i>to</i>	
					<i>30-9-81</i>	
(1)				(2)	(3)	(5)
1	Number of Towns, Villages and Hamlets electrified.	..	..	63.479	..	63.479
2	Number of Pumpsets connected	..	..	952.069	6.502	931.571

The total Number of Houses/flats/apartments/tenements under construction by the Tamil Nadu Housing Board under different housing schemes during the quarter ended 30th September 1981 was 15,327. During the quarter under report 684 houses flats apartments tenements were completed. Since inception of the scheme (i.e.) from 21st April 1961 up to the quarter ended 30th September 1981 an aggregate number of 68,042 houses flats apartments and tenements were completed.

						Completed from 21-4-61 to Quarter Ended 30-9-81	Under Construction during the Quarter Ended 30-9-81
	(1)					(2)	(3)
1	Low Income Group Housing	16,108	3,454
2	Middle Income Group Housing	9,058	5,102
3	Tamil Nadu Government Rental Housing	11,434	1,722
4	Subsidised Industrial Housing	2,734	312
5	Slum Improvement / Clearance	15,436	464
6	Special Low cost Housing Schemes/EWS	12,277	3,003
7	Deposit Works
8	Ancillary
9	Police	995	1,270
	Total	68,042	15,327

During the quarter ended June 1981 number of Permits sanctioned for Construction of Buildings in Madras City by the Corporation of Madras was 2,569 as against 1,842 during the corresponding quarter in 1980.

							1980	1981
		(1)					(2)	(3)
1 April	610	913
2 May	652	827
3 June	580	829
		1,842	3,569

8.3 INDEX NUMBERS OF BUILDING COST IN MADRAS CITY (BASE: 1971-72=100)

The Index Number of Building Cost in Madras City for the quarter ended September 1981 rose to 317 registering an increase of 5 points over 312 during the previous quarter. Though there was a slight increase in the prices of Cement, timber and certain building materials there was a fall in the prices of Brick, sand, Iron and steel. The wages paid to the skilled and unskilled labour have remained unchanged during the quarter under review.

Serial number and Group.		Weight proportional to the total cost.	Group Index for the quarter ended.	
			30-6-81.	30-9-81.
(1)		(2)	(3)	(4)
1. Building Materials	.. .. .	67.25	295.03	301.57
2. Building Labour	.. .. .	16.82	407.19	407.19
3. Other Charges	.. .. .	15.93	281.61	285.83
Index Number of Building Cost in Madras :		100.00	311.76	316.83
City.		100	(or) 312	(or) 317

IX. TRANSPORT.

NEW REGISTRATIONS OF MOTOR VEHICLES

During the quarter ended June 1981 the total number of newly registered Motor Vehicles in Tamil Nadu was 11,789 as against 12,275 during the previous quarter.

The decrease in the new registrations during the quarter ended June 1981 was due to fall in registrations of almost all the categories of vehicles excepting in Jeeps and Station Wagons and Buses.

9.1 REGISTRATIONS OF MOTOR VEHICLES.

Serial Number and Category of Vehicles					Quarter Ended	
					March '81.	June '81.
(1)					(2)	(3)
1	Motor Cycles, Scooters and Mopeds	..	..	..	9,114	7,069
2	Private Cars	..	..	..	718	465
3	Jeeps and Station Wagons..	..	..	..	144	121
4	Taxis	..	..	..	274	174
5	Other Conrtact carriages (Autorichshaws)	..	..	..	208	31
6	Buses	..	..	..	371	408
7	Goods Vehicles	..	..	..	798	690
8	Others	..	..	..	648	729
Total					12,275	11,789

X. PRICES.

WHOLESALE PRICES OF SELECTED COMMODITIES.

When compared with the monthly average wholesale prices which prevailed during the month of June 1981, the monthly average wholesale prices of the following commodities declined during the month of September 1981. The percentage fall in prices of the commodities are shown in brackets :—

Pepper (0.7), Cane Jaggery II sort (23.2), Palm Jaggery (8.4), Sugar (26.8), Groundnut (kernel) (0.7), Gingelly Seed (4.9), Coconut (husked) (5.7), Coconut Oil (0.7), Arecanut (husked) (4.4), Tobacco (1.7), Tanned Cow—hides (10.0) and Tanned sheep-skin (3.4).

The monthly average wholesale prices of the following commodities showed an upward trend during the month of September 1981, as compared with the average prices which prevailed during the month of June 1981. The percentage increase in prices of the commodities are shown in brackets :—

Paddy I Sort (16.2) Paddy II Sort (6.7) Rice I Sort (10.3), Rice II Sort (9.9), Wheat (2.3), Cholam (1.2),amba (0.5), Ragi (5.8), Bengalgram dhal (13.1), Redgram Dhal (9.3), Blackgram dhal (11.4), Green Gram dhal (3.4), Tamarind (12.4), Chillies (46.7), Corinder (4.9), Turmeric (3.3), garlic (ground) (20.1), Castor seed (3.9), Cotton Seed (8.7), Groundnut Oil (6.4), Gingelly Oil (2.4), Ghee (ungraded) (29.0), Cotton Lint (MCU 5) (3.9), Coir Yarn (0.7), and Cashewnut (with shell) (16.1).

The average wholesale price of tanned goat skin remained un-changed at last quarter's price



10.1—MONTHLY AVERAGE WHOLESALE PRICES OF SELECT COMMODITIES.

Serial number and Commodity.						1980		
						October.	November	December.
(1)						(3)	(4)	(5)
						RS.	RS.	RS.
1	Paddy I Sort	..	..	..	Quintal	143.19	144.62	144.59
2	Paddy II Sort	..	..	..	Do.	120.69	133.67	140.23
3	Rice I Sort	..	..	..	Do.	239.68	254.99	253.45
4	Rice II Sort	..	..	..	Do.	203.19	211.85	223.09
5	Wheat	..	..	..	Do.	199.05	205.94	213.50
6	Cholam	..	..	..	Do.	114.95	120.35	135.43
7	Cumbu	..	..	..	Do.	111.53	119.76	127.13
8	Ragi	..	..	..	Do.	129.76	136.86	142.77
9	Bengalgram dhal	..	..	..	Do.	540.20	576.31	507.93
10	Redgram dhal	..	..	..	Do.	509.14	527.38	504.68
11	Blackgram dhal	..	..	..	Do.	398.63	421.86	405.23
12	Greengram dhal	..	..	..	Do.	445.64	475.98	475.23
13	Tamarind	..	..	..	Do.	694.44	680.83	668.44

Serial number and commodity.						1981		
						January.	February.	March.
						(6)	(7)	(8)
						RS.	RS.	RS.
1	Paddy I Sort	..	..	..	Quintal	144.60	157.11	154.78
2	Paddy II sort	..	..	..	Do.	148.99	158.33	157.21
3	Rice I sort	..	..	..	Do.	245.76	272.76	266.07
4	Rice II sort	..	..	..	Do.	233.93	256.90	252.16
5	Wheat	..	..	..	Do.	223.35	222.38	224.56
6	Cholam	..	..	..	Do.	137.71	161.43	164.25
7	Cumbu	..	..	..	Do.	131.65	169.63	169.54
8	Ragi	..	..	..	Do.	145.05	172.04	174.93
9	Bengalgram dhal	..	..	..	Do.	525.02	541.74	494.84
10	Redgram dhal	..	..	..	Do.	490.01	494.04	488.99
11	Blackgram dhal	..	..	..	Do.	484.30	399.10	396.02
12	Greengram dhal	..	..	..	Do.	487.75	511.94	506.57
13	Tamarind	..	..	..	Do.	650.89	582.90	552.79

Serial number and Commodity.					Unit.	1981		
						April (P).	May (P)	June (P).
(1)						(9)	(10) Rs	(11)
1	Paddy I sort	..	..	..	Quintal.	154.23	158.55	164.09
2	Paddy II sort	..	..	..	Do.	154.70	158.68	165.33
3	Rice I sort	..	..	..	Do.	260.82	256.01	269.24
4	Rice II sort	..	..	..	Do.	245.25	247.23	253.50
5	Wheat	..	..	..	Do.	213.75	215.00	215.00
6	Cholam	..	..	..	Do.	162.58	163.29	155.40
7	Cumbu	..	..	..	Do.	168.85	159.56	146.86
8	Ragi	..	..	..	Do.	168.97	164.95	162.48
9	Bengalgram dhal	..	..	..	Do.	501.33	487.08	476.66
10	Redgram dhal	..	..	..	Do.	492.33	497.61	494.27
11	Blackgram dhal	..	..	..	Do.	389.12	388.93	393.70
12	Greengram dhal	..	..	..	Do.	493.99	483.15	472.45
13	Tamarind	..	..	..	Do.	580.43	601.66	597.88

Serial number and Commodity.					Unit.	1981		
						July (P).	August (P).	September (P)
						(12)	(13)	(14)
						RS.	RS.	RS.
1	Paddy I sort	..	..	..	Quintal	180.76	191.16	191.55
2	Paddy II sort	..	..	..	Do.	178.75 (R)	170.38	176.41
3	Rice I sort	..	..	..	Do.	281.50 (R)	294.98 (R)	296.83
4	Rice II sort	..	..	..	Do.	271.11	288.05 (R)	278.57
5	Wheat	..	..	..	Do.	222.00	220.00	220.00
6	Cholam	..	..	..	Do.	156.65 (R)	159.69	157.26
7	Cumbu	..	..	..	Do.	152.29	154.66	147.52
8	Ragi	..	..	..	Do.	175.07 (R)	179.63 (R)	171.98
9	Bengalgram dhal	..	..	..	Do.	486.84 (R)	538.58	539.14
10	Redgram dhal	..	..	..	Do.	509.44 (R)	530.21 (R)	540.02
11	Blackgram	..	..	..	Do.	410.85 (R)	439.32	438.46
12	Greengram dhal	..	..	..	Do.	477.71 (R)	492.60	488.32
13	Tamarind	..	..	..	Do.	631.52 (R)	667.25 (R)	671.83

10.1. MONTHLY AVERAGE RETAIL PRICES OF SELECT COMMODITIES

Serial number and Commodity.	Unit.	1980		
		October.	November.	December.
		(3)	(4)	(5)
(1)	(2)	RS.	RS.	RS.
14. Chillies	Quintal	545.15	525.32	521.47
15. Coriander	Do.	468.36	600.00	556.76
16. Pepper	Do.	1,600.00	1,600.00	1,675.00
17. Turmeric	Do.	234.60	268.30	282.25
18. Garlic (Ground)	Do.	232.63	223.92	209.69
19. Cane Jaggery II Sort	Do.	418.68	387.06	342.96
20. Palm-Jaggery	Do.	514.19	512.26	538.22
21. Sugar	Do.	N.T.	822.17	715.89
22. Groundnut Kernel	Do.	465.91	487.15	510.63
23. Gingelly Seed	Do.	477.34	498.05	528.75
24. Castor Seed	Do.	304.43	296.65	305.97
25. Coconut (Husked)	1000 Nut	1,288.90	1,387.00	1,365.90
26. Cotton Seed	Quintal	173.99	179.91	193.14
27. Groundnut oil	10 Kg.	106.04	109.50	111.23
28. Gingelly oil	Do.	108.95	114.86	119.16
29. Coconut oil	Do.	184.91	201.30	180.78
30. Ghee (Ungraded)	Quintal	2,293.75	2,331.25	2,331.25

Serial number and Commodity.	Unit.	1981		
		January.	February.	March.
		(6)	(7)	(8)
		RS.	RS.	RS.
14. Chillies	Quintal	569.41	720.03	785.96
15. Coriander	Do.	632.95	577.95	603.81
16. Pepper	Do.	1,770.00	1,775.00	1831.25
17. Turmeric	Do.	267.20	266.50	315.50
18. Garlic (Ground)	Do.	207.67	211.15	237.40
19. Cane Jaggery II Sort	Do.	296.73	299.19	293.71
20. Palm-Jaggery	Do.	562.62	477.50	473.58
21. Sugar	Do.	693.36	706.86	715.33
22. Groundnut Kernel	Do.	566.74	598.79	553.86
23. Gingelly Seed	Do.	560.38	608.86	564.95
24. Castor Seed	Do.	326.03	331.67	329.33
25. Coconut (Husked)	1000 Nuts	1,323.10	1396.62	1,347.24
26. Cotton Seed	Quintal	206.74	218.96	224.55
27. Groundnut oil	10 Kg.	122.92	133.51	124.75
28. ngelly oil	Do.	125.06	132.74	122.65
29. Coconut oil	Do.	183.43	173.83	155.18
30. Ghee (Ungraded)	Quintal	2,331.25	2,425.00	2,425.00

Serial number and Commodity.						1981		
						April (P)	May (P)	June (P)
						(9)	(10)	(11)
						RS.	RS.	RS.
14.	Chillies	..	..	..	Quintal	822.21	817.26	862.75
15.	Coriander	..	..	..	Do.	683.93	732.08	732.84
16.	Pepper	..	..	..	Do.	1,825.00	1,825.00	1,825.25
17.	Turmeric	..	..	..	Do.	342.10	319.72	317.20
18.	Garlic (Ground)	..	..	..	Do.	257.07	323.56	325.17
19.	Cane Jaggery-II Sort	..	..	..	Do.	328.73	339.87	341.89
20.	Palm-jaggery	..	..	..	Do.	470.78	474.05	461.92
21.	Sugar	..	..	..	Do.	816.47	753.57	723.39
22.	Groundnut Kernel	..	..	..	Do.	538.92	555.63	612.12
23.	Gingelly Seed	..	..	..	Do.	597.17	592.30	583.61
24.	Castor Seed	..	..	..	Do.	323.33	312.66	319.33
25.	Coconut (Husked)	..	..	..	1000 Nuts	1,415.20	1,423.00	1,422.50
26.	Cotton Seed	..	..	..	Quintal	200.59	218.53	223.38
27.	Groundnut oil	..	..	..	10 Kg.	121.12	124.39	134.10
28.	Gingelly oil	..	..	..	Do.	128.01	129.70	132.65
29.	Coconut oil	..	..	..	Do.	160.42	153.74	155.36
30.	Ghee (Ungraded)	..	..	..	Quintal	2,425.00	2,425.00	2,534.38

Serial number and Commodity.						1981		
						July (P)	August (P)	September (P)
						(12)	(13)	(14)
						RS.	RS.	RS.
14.	Chillies	.	.	.	Quintal	1,065.76(R)	1,278.85	1,265.38
15.	Coriander	.	.	.	Do.	767.25(R)	704.70	8768.7
16.	Pepper	.	.	.	Do.	1,833.00	1,813.00	1,813.00
17.	Turmeric	.	.	.	Do.	318.40	331.40	327.80
18.	Garlic (Ground)	.	.	.	Do.	393.31	378.31	391.84
19.	Cane Jaggery-II Sort	.	.	.	Do.	305.36(R)	297.71	262.51
20.	Palm-jaggery	..	..	..	Do.	457.20	454.82	423.15
21.	Sugar	..	..	..	Do.	644.85(R)	639.46	529.40
22.	Groundnut Kernel	..	..	..	Do.	629.15(R)	639.46	607.97
23.	Gingelly Seed	..	..	..	Do.	565.85(R)	590.08	555.10
24.	Castor Seed	..	..	..	Do.	311.60	346.11	331.67
25.	Coconut (Husked)	..	..	.	1000 Nuts	1242.73	1,289.59	1,341.49
26.	Cotton Seed	.	.	.	Quintal	232.79	239.62	242.88
27.	Groundnut oil	..	..	..	10 Kg.	141.04(R)	148.23	142.74
28.	Gingelly oil	..	..	..	Do.	132.08(R)	139.03	135.82
29.	Coconut oil	..	..	..	Do.	147.87	158.48	154.25
30.	Ghee (Ungraded)	..	..	..	Quintal	2,912.30	3,112.94	3268.75

10.1.—cont.

Serial number and Commodity.	Unit.	1980		
		October.	November.	December.
		(3)	(4)	(5)
(1)	(2)	RS.	RS.	RS.
31. Cotton Lint MCU 5	Quintal	1,423.11	1,476.82	1,535.82
32. Coir Yarn	Do. .	267.95	369.19	370.44
33. Arecanut (Husked)	Do. ..	1,441.45	1,484.60	1,471.35
34. Tobacco	Do. .	589.24	585.23(R)	612.63
35. Cashewnut (with Shell)	Do. ..	911.49	985.42	993.75
36. Tanned Cow Hides .. .	Kg. .	28.00	28.00	28.00
37. Tanned Goat Skin	Do. .	126.33	126.33	126.33
38. Tanned Sheep Skin .. .	Do. ..	160.00	160.00	160.00

Serial number and Commodity.	Unit.	1981		
		January.	February.	March.
		(6)	(7)	(8)
(1)	(2)	RS.	RS.	RS.
31. Cotton Lint MCU 5	Quintal	1,669.96	1,624.85	1,619.54
32. Coir Yarn	Do. .	370.32	380.97	357.50
33. Arecanut (Husked)	Do. ..	1,416.74	1,505.78	1,543.29
34. Tobacco	Do. .	645.12	669.79	660.11
35. Cashewnut (with Shell)	Do. ..	1,000.00	1,125.00	1,040.41
36. Tanned Cow Hides .. .	Kg. ..	28.00	28.00	22.00
37. Tanned Goat Skin	Do. ..	126.33	127.33	130.00
38. Tanned Sheep Skin .. .	Do. ..	160.00	160.00	146.67

10.1. MONTHLY AVERAGE RETAIL PRICES OF SELECT COMMODITIES—*cont.*

Serial number and Commodity.	Unit.	1980		
		April.	May.	June.
		(9)	(10)	(11)
(1)	(2)	RS.	RS.	RS.
31. Cotton Lint MCU5	Quintal	1,615.92	1,679.05	1,715.83
32. Coir Yarn	Do. ..	356.67	358.33	366.67
33. Arecanut (Husked)	Do. ..	1,536.27	1,561.36	1,615.68
34. Tobacco	Do. ..	648.79	612.15	582.65
35. Cashewnut (with shell)	Do. ..	1,025.31	932.99	1,031.38
36. Tanned Cow Hides	Kg. ..	22.50	21.60	20.00
37. Tanned Goat skin	Do. ..	130.00	130.00	130.00
38. Tanned Sheep Skin	Do. ..	145.83	145.00	145.00

NOTE. (P): Provisional

*: Additions to the quarter.

R: Revised Rate

State averages relate to specified centres only.

Serial number and Commodity.	Unit.	1981		
		July.	August.	September.
		(12)	(13)	(14)
(1)	(2)	RS.	RS.	RS.
31. Cotton Lint MCU 5	Quintal	1,747.34	1,741.91	1,782.00
32. Coir Yarn	Do. .	333.33	350.42	369.08
33. Arecanut (Husked)	Do. ..	1,557.26	1,494.00	1,544.18
34. Tobacco	Do. ..	582.17	582.62	572.57
35. Cashewnut (with shell)	Do. ..	1,128.34	1,175.78	1,197.66
36. Tanned Cow Hides	Kg. ..	19.60	18.00	18.00
37. Tanned Goat skin	Do. ..	130.00	130.00	130.00
38. Tanned Sheep Skin	Do. ..	144.33	140.42	140.00

NOTE.—(P) = Provisional

* : Additions to the quarter.

R : Revised Rate

State average relate to specified centres only.

10.2 ANNUAL AVERAGE WHOLESALE PRICES OF SELECT COMMODITIES.

Serial number and Commodity.						Unit.	1975-76	1976-77	1977-78
(1)						(2)	(3)	(4)	(5)
							RS.	RS.	RS.
1.	Paddy I Sort	..	..	..	..	Quintal	146.83	110.95	110.00
2.	Paddy II Sort	..	..	..	..	Do. ..	137.78	103.34	103.63
3.	Rice I Sort	..	..	..	..	Do. ..	249.88	182.93	185.94
4.	Rice II Sort	..	..	..	..	Do. ..	225.94	169.45	171.64
5.	Wheat	..	..	..	..	Do. ..	216.94	188.93	179.59
6.	Cholam	..	..	..	..	Do. ..	151.82	127.15	122.04
7.	Cumbu	..	..	..	..	Do. ..	152.81	119.00	118.01
8.	Ragi	..	..	..	..	Do. ..	136.32	107.32	111.13
9.	Bengalgram Dhall	..	..	..	..	Do. ..	253.81	168.12	238.11
10.	Redgram Dhall	..	..	..	..	Do. ..	254.87	242.98	400.02
11.	Blackgram Dhall	..	..	..	..	Do. ..	276.44	323.92	359.09
12.	Greengram Dhall	..	..	..	..	Do. ..	264.23	235.35	307.60
13.	Tamarind	..	..	..	..	Do. ..	230.30	344.12	308.65
14.	Chillies	..	..	..	..	Do. ..	1,230.80	636.99	731.34

Serial number and Commodity.						Unit.	1978-79	1979-80	1980-81
							(6)	(7)	(8)
							RS.	RS.	RS.
1.	Paddy I Sort	..	..	..	..	Quintal	102.17	116.00	139.26
2.	Paddy II Sort	..	..	..	..	Do. ..	100.91	115.03	136.02
3.	Rice I Sort	..	..	..	..	Do. ..	169.22	198.25	235.13
4.	Rice II Sort	..	..	..	..	Do. ..	160.05	185.87	216.47
5.	Wheat	..	..	..	..	Do. ..	166.45	174.21	200.69
6.	Cholam	..	..	..	..	Do. ..	92.57	105.69	126.52
7.	Cumbu	..	..	..	..	Do. ..	88.28	102.41	128.85
8.	Ragi	..	..	..	..	Do. ..	87.23	101.45	134.16
9.	Bengalgram Dhall	..	..	..	..	Do. ..	280.80	283.45	449.01
10.	Redgram Dhall	..	..	..	..	Do. ..	461.61	465.68	474.31
11.	Blackgram Dhall	..	..	..	..	Do. ..	394.30	381.37	390.16
12.	Greengram Dhall	..	..	..	..	Do. ..	403.32	455.36	468.77
13.	Tamarind	..	..	..	..	Do. ..	568.26	439.90	657.50
14.	Chillies	..	..	..	..	Do. ..	746.51	630.45	581.94

10.2. ANNUAL AVERAGE WHOLESALE PRICES OF SELECT COMMODITIES—cont.

Serial number and Commodity.						Unit.	1975-76	1976-77	1977-78
(1)						(2)	(3)	(4)	(5)
							RS.	RS.	RS.
15.	Corinder	..	..	..	..	Quintal ..	405.17	616.59	589.06
16.	Pepper	..	..	..	..	Do. ..	1,328.94	1,763.75	1,917.36
17.	Turmeric	..	..	..	..	Do. ..	336.78	428.89	760.30
18.	Garlic (Ground)	..	..	..	..	Do. ..	213.23	168.91	331.36
19.	Cane Jaggery II Sort	..	..	..	..	Do. ..	214.70	201.63	156.05
20.	Palm Jaggery	..	..	..	..	Do. ..	272.59	267.79	223.47
21.	Sugar	..	..	..	..	Do. ..	436.97	455.06	379.88
22.	Groundnut Kernel	..	..	..	..	Do. ..	291.58	317.06	373.30
23.	Gingelly Seed	..	..	..	..	Do. ..	346.70	397.68	408.89
24.	Castor Seed	..	..	..	..	Do. ..	153.17	231.39	252.17
25.	Coconut (Husked)	..	..	..	..	1,000 Nuts ..	753.40	969.28	941.78
26.	Cotton Seed	..	..	..	..	Quintal ..	136.47	148.32	158.991
27.	Groundnut Oil	..	..	..	..	10 Kg. ..	65.14	71.32	81.83
28.	Gingelly Oil	..	..	..	..	Do. ..	77.46	84.60	88.58
29.	Coconut Oil	..	..	..	..	Do. ..	84.88	109.92	112.68
30.	Ghee (ungraded)	..	..	..	..	Quintal ..	1,769.43	1,850.44	1,783.61

Serial number and Commodity.						Unit.	1978-79	1979-80	1980-81
							(6)	(7)	(8)
							RS.	RS.	RS.
15.	Corinder	..	..	..	..	Quintal ..	298.71	291.55	514.11
16.	Pepper	..	..	..	..	Do. ..	1,971.92	1,816.83	1,625.58
17.	Turmeric	..	..	..	..	Do. ..	807.66	419.52	281.58
18.	Garlic (Ground)	..	..	..	..	Do. ..	456.27	307.35	237.23
19.	Cane Jaggery II Sort	..	..	..	..	Do. ..	140.72	213.07	332.90
20.	Palm Jaggery	..	..	..	..	Do. ..	209.22	287.33	446.94
21.	Sugar	..	..	..	..	Do. ..	262.91	343.73	774.38
22.	Groundnut Kernel	..	..	..	..	Do. ..	303.06	395.91	482.71
23.	Gingelly Seed	..	..	..	..	Do. ..	352.78	443.83	544.77
24.	Castor Seed	..	..	..	..	Do. ..	196.83	231.27	299.20
25.	Coconut (Husked)	..	..	..	..	1000 Nuts ..	985.12	1,014.60	1,225.23
26.	Cotton Seed	..	..	..	..	Quintal ..	131.03	154.81	187.69
27.	Groundnut Oil	..	..	..	..	10 Kg. ..	67.32	90.91	115.14
28.	Gingelly Oil	..	..	..	..	Do. ..	74.84	100.48	121.12
29.	Coconut Oil	..	..	..	..	Do. ..	124.27	132.16	169.55
30.	Ghee (ungraded)	..	..	..	..	Quintal ..	2,056.76	2,044.94	2,246.44

10.3. ANNUAL AVERAGE WHOLESALE PRICES OF SELECT COMMODITIES—*cont.*

<i>Serial number and commodity.</i>	<i>Unit.</i>	1975-76	1976-77	1977-78
(1)	(2)	(3)	(4)	(5)
		RS.	RS.	RS.
31. Cotton lint MCU 5	Quintal	894.11	1,423.96	1,470.22
32. Coir Yarn	Do.	208.44	215.38	236.07
33. Arecanut (Husked)	Do.	812.66	975.10	1,046.49
34. Tobacco	Do.	951.19	927.83	837.60
35. Cashewnut (with shell)	Do.	312.47	425.99	763.31
36. Tanned Cow-hides	Kg.	14.06	18.54	16.91
37. Tanned Goat skin	Do.	72.80	80.83	74.16
38. Tanned Sheep hides	Do.	86.16	103.63	96.43

NOTE.—P=Provisional

State: averages relate to Specified Centres only.

<i>Serial number and commodity.</i>	<i>Unit.</i>	1978-79	1979-80	1980-81
(1)	(2)	(6)	(7)	(8)
		RS.	RS.	RS.
31. Cotton lint MCU 5	Quintal	1,389.18	1,298.46	1,442.58
32. Coir Yarn	Do.	252.71	357.40	372.11
33. Arecanut (Husked)	Do.	1,067.71	1,126.92	1,465.55
34. Tobacco	Do.	745.04	579.04	655.89
35. Cashewnut (with Shell)	Do.	604.43	678.88	884.95
36. Tanned Cow-hides	Kg.	20.40	24.12	27.12
37. Tanned Goat skin	Do.	100.96	121.52	124.64
38. Tanned Sheep-hides	Do.	128.95	157.22	156.15

NOTE.—P=Provisional

State: averages relate to Specified Centres only.

RETAIL PRICES OF SELECT COMMODITIES:

When compared with the average retail prices that prevailed during the last month of the previous quarter ended June 1981, the monthly average retail prices of the following commodities recorded a downward trend in September 1981.

Cane Jaggery (18.5 per cent) Palm jaggery (6.0 per cent), Sugar (25.9 per cent) and Coconut oil (0.2 per cent).

The average retail prices for the same period recorded an upward trend for the following commodities.

Rice I sort (12.1 percent), Rice II sort (10.6 per cent), Wheat (4.8 per cent) Chulam (1.8 per cent), Cumbu (1.2 per cent), Ragi (7.2 percent), Bengalgram dhal (10.0 per cent), Redgram dhal (8.3 percent), Greengram dhal (0.9 per cent), Blackgram dhal (7.7 per cent), Tamarind (11.2 per cent), Chillies (43.7 per cent), Pepper (4.8 per cent), Turmeric (8.1 per cent), Garlic (23.2 per cent), Salt (11.1 percent), Coriander (6.3 per cent), Coconut-husked (9.4 per cent), Ghee-Agmark (15.7 per cent), Coir yarn (2.9 per cent), Groundnut Oil (7.3 per cent), Gingelly oil (2.3 per cent), Cotton seed (6.5 percent) and Arecanut-husked (7.7 per cent).

The average retail prices of tobacco remained unchanged during the quarter under review.



10-3. MONTHLY AVERAGE RETAIL PRICES OF SELECT COMMODITIES.

Serial number and commodity.					Unit.	October 1980.	November 1980.	December 1980.
(1)					(2)	(3)	(4)	(5)
1.	Rice	I Sort	..	..	Quintal	252-00	268-00	265-00
2.	Rice	II Sort	..	..	Do.	217-00	229-00	237-00
3.	Wheat	..	..	..	Do.	220-00	231-00	249-00
4.	Cholam	..	..	..	Do.	125-00	130-00	143-00
5.	Cumbu	..	..	..	Do.	129-00	133-00	140-00
6.	Ragi	..	..	..	Do.	144-00	149-00	154-00
7.	Bengalgram Dhall	..	..	..	Kg.	5-73	6-23	5-55
8.	Redgram Dhall	..	..	..	Do.	5-42	5-62	5-45
9.	Greengram Dhall	..	..	..	Do.	4-90	5-21	5-14
10.	Blackgram Dhall	..	..	..	Do.	4-45	4-66	4-50
11.	Tamarind	..	..	..	Do.	7-73	7-61	7-61
12.	Chillies	..	..	..	Quintal	639-00	616-00	628-00
13.	Pepper	..	..	..	Do.	2,200-00	2,200-00	2,200-00
14.	Turmeric	..	..	..	Do.	355-00	422-00	475-00
15.	Garlic (Ground)	..	..	..	Kg.	3-06	2-96	2-70
						January 1981.	February 1981.	March 1981.
						(6)	(7)	(8)
1.	Rice	I Sort	..	..	Quintal	258-00	284-00	277-00
2.	Rice	II Sort	..	..	Do.	248-00	267-00	260-00
3.	Wheat	..	..	..	Do.	264-00	266-00	263-00
4.	Cholam	..	..	..	Do.	147-00	173-00	171-00
5.	Cumby	..	..	..	Do.	142-00	181-00	183-00
6.	Ragi	..	..	..	Do.	157-00	182-00	190-00
7.	Bengalgram Dhall	..	..	..	Kg.	5-62	5-78	5-33
8.	Redgram Dhall	..	..	..	Do.	5-32	5-33	5-28
9.	Greengram Dhall	..	..	..	Do.	5-33	5-75	5-55
10.	Blackgram Dhall	..	..	..	Do.	4-46	4-44	4-44
11.	Tamarind	..	..	..	Do.	7-57	6-79	5-51
12.	Chillies	..	..	..	Quintal	651-00	819-00	869-00
13.	Pepper	..	..	..	Do.	2,200-00	2,150-00	2,200-00
14.	Turmeric	..	..	..	Do.	475-00	488-00	488-00
15.	Garlic (Ground)	..	..	..	Kg.	2-53	2-50	2-83

10.3. MONTHLY AVERAGE RETAIL PRICES OF SELECT COMMODITIES—Cont.

Serial number and Commodity.						Unit.	April 1981.	May 1981.	June 1981.
(1)						(2)	(9)	(10)	(11)
1.	Rice I Sort	..	..	..	..	Quintal	273-00	276-00	281-00
2.	Rice II Sort	..	..	..	..	Do.	259-00	269-00	265-00
3.	Wheat	..	..	..	..	Do.	268-00	273-00	273-00
4.	Cholam	..	..	..	..	Do.	168-00	172-00	167-00
5.	Cumbu	..	..	..	..	Do.	183-00	178-00	165-00
6.	Ragi	..	..	..	..	Do.	187-00	185-00	180-00
7.	Bengalgram Dhall	..	..	..	..	Kg.	5-13	5-27	5-22
8.	Redgram Dhall	..	..	..	..	Do.	5-29	5-35	5-32
9.	Greengram Dhall	..	..	..	..	Do.	5-49	5-37	5-28
10.	Blackgram Dhall	..	..	..	..	Do.	4-40	4-38	4-40
11.	Tamarind	..	..	..	..	Do.	6-71	6-34	6-98
12.	Chillies	..	..	..	..	Quintal	909-00	915-00	970-00
13.	Pepper	..	..	..	..	Do.	2,200-00	2,200-00	2,100-00
14.	Turmeric	..	..	..	..	Do.	481-00	421-00	433-00
15.	Garlic (Ground)	..	..	..	..	Kg.	3-14	3-96	3-96
							July 1981.	August 1981.	September 1981.
1.	Rice I Sort	..	..	..	..	Quintal	299-00	315-00	315-00
2.	Rice II Sort	..	..	..	..	Do.	286-00	301-00	293-00
3.	Wheat	..	..	..	..	Do.	277-00	283-00	286-00
4.	Cholam	..	..	..	..	Do.	168-00	173-00	170-00
5.	Cumbu	..	..	..	..	Do.	167-00	170-00	167-00
6.	Ragi	..	..	..	..	Do.	191-00	198-00	193-00
7.	Bengalgram Dhall	..	..	..	..	Kg.	5-24	5-77	5-74
8.	Redgram Dhall	..	..	..	..	Do.	5-47	5-57	5-76
9.	Greengram Dhall	..	..	..	..	Do.	5-31	5-41	5-33
10.	Blackgram Dhall	..	..	..	..	Do.	4-54	4-70	4-74
11.	Tamarind	..	..	..	..	Do.	7-42	7-35	7-76
12.	Chillies	..	..	..	..	Quintal	1,167-00	1,407-00	1,394-00
13.	Pepper	..	..	..	..	Do.	2,180-00	2,200-00	2,200-00
14.	Turmeric	..	..	..	..	Do.	437-00	455-00	468-00
15.	Garlic (Ground)	..	..	..	..	Kg.	4-46	4-71	4-8

10.3—cont.

Serial number and commodity.				Unit.	October 1980.	November 1980.	December 1980.
(1)				(2)	(3)	(4)	(5)
16.	Cane Jaggery I and II Sort	..	..	Quintal	485.00	459.00	406.00
17.	Palm Jaggery	..	..	Do.	546.00	551.00	641.00
18.	Sugar	..	..	Kg.	N.T.	8.50	7.51
19.	Salt	..	..	Do.	0.25	0.25	0.25
20.	Coriander	..	..	Quintal	526.00	645.00	691.00
21.	Coconut Husked (I and II Sort)	..	..	100 Nuts	156.00	173.00	165.00
22.	Ghee (Agmark)	..	..	Kg.	30.00	28.75	23.00
23.	Coir Yarn **	..	..	Quintal	330.00	334.00	338.00
24.	Groundnut Oil	..	..	Kg.	11.26	11.64	11.74
25.	Coconut Oil	..	..	Do.	19.37	21.38	20.67
26.	Gingelly Oil	..	..	Do.	12.11	12.09	12.77
27.	Cotton Seed	..	..	Quintal	187.00	193.00	204.00
28.	Arecanut (Husked)***	..	..	Do.	2 550.00	2 550.00	2 475.00
29.	Tobacco	..	..	Do.	638.00	619.00	638.00
					January 1981.	February 1981.	March 1981.
					(6)	(7)	(8)
16.	Cane Jaggery I and II Sort	..	..	Quintal	362.00	364.00	356.00
17.	Palm Jaggery	..	..	Do.	602.00	558.00	544.00
18.	Sugar	..	..	Kg.	7.22	7.34	7.38
19.	Salt	..	..	Do.	0.26	0.26	0.27
20.	Coriander	..	..	Quintal	703.00	672.00	693.00
21.	Coconut Husked (I and II Sort)	..	..	100 Nuts	155.00	153.00	148.00
22.	Ghee (Agmark)	..	..	Kg.	27.20	26.25	27.00
23.	Coir Yarn **	..	..	Quintal	338.00	338.00	338.00
24.	Groundnut Oil	..	..	Kg.	12.98	14.19	13.34
25.	Coconut Oil	..	..	Kg.	20.24	18.94	17.11
26.	Gingelly Oil	..	..	Kg.	13.50	14.31	13.54
27.	Cotton Seed ***	..	..	Quintal	224.00	241.00	240.00
28.	Arecanut (Husked)	..	..	Do.	2 490.00	2 677.00	2 600.00
29.	Tobacco	..	..	Do.	633.00	738.00	728.00

<i>Serial number and Commodity.</i>						<i>April</i>	<i>May</i>	<i>June</i>
						1981.	1981.	1981.
						(9)	(10)	(11)
16.	Cane Jaggery I and II Sorts	..	..	Quintal	..	387-00	402-00	405-00
17.	Palm Jaggery	..	..	Do..	..	554-00	565-00	535-00
18.	Sugar	..	..	Do..	..	8-36	7-85	7-49
19.	Salt	..	..	Do..	..	0-26	0-25	0-27
20.	Coriander	..	..	Do..	..	752-00	798-00	807-00
21.	Coconut Husked (I and II Sorts)	..	..	100 Nuts	..	144-00	137-00	139-00
22.	Ghee (Agmark)	..	..	Kg.	..	27-00	27-80	31-75
							(R)	(R)
23.	Coir Yarn **	..	..	Quintal	..	338-00	338-00	345-00
24.	Groundnut Oil	..	..	Kg.	..	13-10	13-17	14-04
25.	Coconut Oil	..	..	Do..	..	17-53	16-82	16-80
26.	Gingelly Oil	..	..	Do..	..	13-65	13-75	14-06
27.	Cotton Seed	..	..	Quintal	..	234-00	240-00	248-00
28.	Areca nut (Husked)***	..	..	Do.	..	2,750-00	2,900-00	2,600-00
29.	Tobacco@	..	..	Do..	..	700-00	658-00	613-00

<i>Serial number and Commodity.</i>						<i>July</i>	<i>August</i>	<i>September</i>
						1981.	1981.	1981.
						(12)	(13)	(14)
16.	Cane Jaggery I and II Sorts	..	..	Quintal	..	376-00	361-00	330-00
17.	Palm Jaggery	..	..	Do..	..	506-00	510-00	503-00
18.	Sugar	..	..	Do..	..	6-75	6-14	5-55
19.	Salt	..	..	Do..	..	0-27	0-27	0-30
20.	Coriander	..	..	Do..	..	838-00	870-00	855-00
21.	Coconut Husked (I and II Sorts)	..	..	100 Nuts	..	143-00	146-00	152-00
22.	Ghee (Agmark)	..	..	Kg.	..	32-80	35-00	36-75
23.	Coir Yarn **	..	..	Quintal	..	345-00	342-00	355-00
24.	Groundnut Oil	..	..	Kg.	..	14-75	15-49	15-07
25.	Coconut Oil	..	..	Do..	..	16-34	17-06	16-77
26.	Gingelly Oil	..	..	Do..	..	14-04	14-65	14-39
27.	Cotton Seed	..	..	Quintal	..	259-00	254-00	264-00
28.	Areca nut (Husked) ***	..	..	Do.	..	2,680-00	2,750-00	2,800-00
29.	Tobacco@	..	..	Do.	..	613-00	613-00	613-00

** Average relates to Nagerecoil and Kuzhithurai Centres Only.

*** Average relates to Mettupalayam Centre only.

10.4. ANNUAL AVERAGE RETAIL PRICES OF SELECT COMMODITIES.

Serial number and commodity.					Unit.	1975—76	1976—77	1977—78
(1)					(2)	(3)	(4)	(5)
1.	Rice I Sort	..	..	..	Quintal ..	279.55	187.00	199.00
2.	Rice II Sort	..	..	..	Do. ..	243.51	180.00	182.00
3.	Wheat	..	..	..	Do... ..	269.48	204.00	200.00
4.	Cholam	..	..	..	Do... ..	170.29	136.00	131.00
5.	Cumbu	..	..	..	Do... ..	159.45	127.00	125.00
6.	Ragi	..	..	..	Do. ..	155.81	119.00	123.00
7.	Bengalgram Dhall	..	..	..	Kg. ..	2.70	1.91	2.60
8.	Redgram Dhall	..	..	..	Do... ..	2.82	2.72	4.34
9.	Greengram Dhall	..	..	..	Do... ..	2.96	2.67	3.38
10.	Blackgram Dhall	..	..	..	Do... ..	3.16	3.56	3.91
11.	Tamarind	..	..	..	Do... ..	2.98	3.83	3.61
12.	Chillies	..	..	..	Quintal ..	1,303.77	727.00	845.00
13.	Pepper	..	..	..	Do... ..	1,362.61	2,010.00	2,288.00
14.	Turmeric	..	..	..	Do... ..	427.95	494.00	849.00
15.	Garlic (Ground)	..	..	..	Kg. ..	..	2.22	3.96
16.	Cane Jaggery	..	..	..	Quintal ..	245.51	257.00	193.00
17.	Palm Jaggery	..	..	..	Do... ..	319.15	318.00	291.00
18.	Sugar	..	..	..	Kg. ..	4.58	4.65	3.93
19.	Salt	..	..	..	Do... ..	0.16	0.16	0.19
20.	Coriander	..	..	..	Quintal ..	449.33	710.00	671.00
21.	Coconut (Husked)	..	..	..	1000 Nuts ..	814.90	1,030.00	1,030.00
22.	Ghee (Agmark)	..	..	..	Kg. ..	20.78	22.71	22.10
23.	Coir Yarn	..	..	..	Quintal ..	244.57	232.00	273.00
24.	Groundnut Oil	..	..	..	Kg. ..	6.76	7.65	8.72
25.	Coconut Oil	..	..	..	Do... ..	9.47	12.14	12.38
26.	Gingelly Oil	..	..	..	Do... ..	8.22	8.93	9.40
27.	Cotton Seed	..	..	..	Quintal ..	141.93	185.00	171.00
28.	Arecanut	..	..	..	Do... ..	712.50	712.50	1,525.00
29.	Tobacco	..	..	..	Do... ..	1,117.70	1,163.00	952.00

						1978—79	1979—80	1980—81
						(6)	(7)	(8)
1.	Rice I Sort	..	..	..	Quintal	185.00	214.00	248.00
2.	Rice II Sort	..	..	..	Do.	171.00	198.00	229.00
3.	Wheat	..	..	..	Do.	189.00	202.00	235.00
4.	Cholam	..	..	..	Do.	104.00	115.00	137.00
5.	Cumbu	..	..	..	Do.	101.00	111.00	141.00
6.	Ragi	..	..	..	Do.	102.00	116.00	148.00
7.	Bengalgram Dhall	..	..	..	Kg.	3.08	3.14	4.86
8.	Redgram Dhall	..	..	..	Do.	5.06	4.94	5.15
9.	Greengram Dhall	..	..	..	Do.	4.36	4.90	5.14
10.	Blackgram Dhall	..	..	..	Do.	4.25	4.21	4.35
11.	Tamarind	..	..	..	Do.	6.40	5.16	6.83
12.	Chillies	..	..	..	Quintal	846.00	715.00	670.00
13.	Pepper	..	..	..	Do.	2,216.00	2,207.00	2,196.00
14.	Turmeric	..	..	..	Do.	945.00	545.00	427.00
15.	Garlic (ground)	..	..	..	Kg.	5.40	3.77	3.08
16.	Cane Jaggery	..	..	..	Quintal	164.00	250.00	369.00
17.	Palm Jaggery	..	..	..	Quintal	246.00	327.00	489.00
18.	Sugar	..	..	..	Kg.	2.33	3.53	6.95
19.	Salt	..	..	..	Do.	0.22	0.23	0.25
20.	Coriander	..	..	..	Quintal	379.00	346.00	587.00
21.	Coconut (Husked)	..	..	..	1000 Nuts	1,160.00	1,200.00	1,470.00
22.	Ghee (Agmark)	..	..	..	Kg.	24.16	24.33	26.49
23.	Coir Yarn	..	..	..	Quintal	235.00	301.00	328.00
24.	Groundnut Oil	..	..	..	Kg.	7.23	9.68	11.54
25.	Coconut Oil	..	..	..	Do.	13.24	14.09	18.20
26.	Gingelly Oil	..	..	..	Do.	7.93	10.50	13.08
27.	Cotton Seed	..	..	..	Quintal	143.00	169.00	201.00
28.	Arecanut	..	..	..	Do.	1,845.00	2,440.00	2,462.00
29.	Tobacco	..	..	..	Quintal	908.0	694.00	695.00

INDEX NUMBERS OF WHOLESALE PRICES.

(1970-71=100)

During the quarter ending September 1981 Index for primary Articles group moved up by 5.43 per cent to 283.25 from 268.65 in the previous quarter. The sub-group index for "Food Articles" and "Non-Food Articles" also advanced to 280.98 and 285.86 respectively while that of 'Minerals' was constant at 310.42.

The group Index for "Fuel Power and Light" moved to 317.13 from its previous quarter's level of 298.69 registering an increase of 6.17 per cent.

The group Index for "Manufactured Products" receded to 260.42 in the current quarter as against 260.54 in the previous quarter registering a slight fall of 0.05 per cent.

10.5. INDEX NUMBERS OF WHOLESALE PRICE.

Base Year 1970-71=100

Month Group 1980-81.	Primary Articles Group.		Minerals.	Primary Articles.	Fuel, Power and light.	Manufactured products.	All com- modities.
	Food Articles.	Non-food Articles.					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1980 October ..	238.67	223.48	306.58	234.06	275.30*	232.55	234.74*
November ..	246.21	231.64	306.58	241.72	275.30*	232.40	238.71*
December ..	242.85	241.95	306.58	243.50	275.30*	231.89	239.42*
1981 January ..	246.55	255.55	308.91	250.86	283.36	234.83	244.86
February ..	255.66	264.95	310.46	259.96	292.30	240.20	252.31
March ..	256.25	264.74	310.42	260.25	297.95	241.49	253.22
April ..	257.84	264.32	310.42	261.06	297.95	246.35	255.78
May ..	260.20	270.67	310.42	264.87	298.25	247.50	258.31
June ..	263.79	274.92	310.42	268.65	298.69	260.54	266.06
July ..	271.01	280.63	310.42	275.20	309.75	260.36	269.79
August ..	277.53	285.06	310.42	280.84	317.13	261.81	273.64
September ..	280.98	285.86	310.42	283.25	317.13	260.42	274.30

* Revised Figures.

CONSUMER PRICE INDEX NUMBERS FOR INDUSTRIAL WORKERS.

(Base 1960=100)

The Consumer Price Index Number for September 1981 as compared to June 1981 increased in all the seven centres in Tamil Nadu.

When compared with the index for June 1981 the index for September 1981 increased by 27 points in Madras City, by 28 points in Cuddalore, by 33 points in Tiruchirapalli, by 27 points in Madurai, by 18 points in Coimbatore, by 20 points in Nagercoil and by 32 points in Coonoor.

10.6. CONSUMER PRICE INDEX NUMBERS FOR INDUSTRIAL WORKERS.

(Base 1960=100)

Period.					Madras city.	Cudda- lore.	Tiruchira- palli.	Madurai	Coimba- tore.	Nagercoil,	Coonoor
(1)					(2)	(3)	(4)	(5)	(6)	(7)	(8)
1976	..	..	..	..	283	289	313	296	300	330	295
1977	..	..	..	..	306	320	335	328	317	344	312
1978	..	..	..	..	316	329	358	335	323	363	32 ₁
1979	..	..	..	..	341	352	375	361	353	401	348
1980	..	..	..	..	377	400	417	403	405	472	396
1980	October	..	..	..	388	409	431	413	420	485	408
	November	..	..	..	398	428	445	429	429	500	411
	December	..	..	..	404	437	454	435	435	500	422
1981	January	..	..	..	403	436	452	439	431	498	420
	February	..	..	..	409	445	455	452	445	524	433
	March	..	..	..	410	454	450	430	459	513	432
	April	..	..	..	412	457	439	432	455	510	437
	May	..	..	..	420	454	446	446	459	518	444
	June	..	..	..	428	460	443	449	462	520	440
	July	..	..	..	452	472	452	463	468	532	457
	August	..	..	..	457	487	476	468	482	548	476
	September	..	..	..	455	488	476	476	480	540	472

16.7 ALL INDIA AVERAGE CONSUMER PRICE INDEX NUMBERS FOR INDUSTRIAL WORKERS.

(Base 1960 = 100.)

<i>Period.</i>						<i>Index.</i>
(1)						(2)
1976	..	..	..	..	..	296
1977	..	..	..	..	..	321
1978	..	..	..	..	..	329
1979	..	..	..	..	..	350
1980	..	..	..	..	..	390
1980 October	..	..	..	..	..	406
November	..	..	..	..	..	411
December	..	..	..	..	..	408
1981 January	..	..	..	..	..	411
February	..	..	..	..	..	418
March	..	..	..	..	..	420
April	..	..	..	..	..	427
May ..	..	..	..	..	..	433
June	..	..	..	..	..	439
July	..	..	..	..	..	447
August	..	..	..	..	..	454
September	..	..	..	..	..	456

CONSUMER PRICE INDEX NUMBERS FOR URBAN NON-MANUAL EMPLOYEES.

(Base 1960=100)

As compared with June 1981, the index for September 1981 increased by 15 points in Madras City, by 24 points in Madurai and by 29 points in Tiruchirapalli.

10.8 CONSUMER PRICE INDEX NUMBERS FOR URBAN NON-MANUAL EMPLOYEES.

(Base 1960 = 100.)

<i>Period.</i>				<i>Madras City.</i>	<i>Madurai.</i>	<i>Tiruchirapalli.</i>
(1)				(2)	(3)	(4)
1976	..	..	..	292	285	282
1977	..	..	..	307	291	306
1978	..	..	..	319	299	314
1979	..	..	..	341	321	331
1980	..	..	..	378	362	365
1980	October	..	..	389	380	380
	November	..	..	397	388	390
	December	..	..	405	392	392
1981	January	..	..	405	396	396
	February	..	..	411	400	413
	March	..	..	412	400	414
	April	..	..	414	409	403
	May	..	..	420	412	409
	June	..	..	426	414	409
	July	..	..	434	423	417
	August	..	..	440	430	428
	September	..	..	441	438	438

CONSUMER PRICE INDEX NUMBERS FOR RURAL TAMIL NADU.

During the quarter under review the Food Group Index moved up by 7.03 per cent to 274.91 as against 256.86 in the last quarter.

The Group Index "Fuel and Lighting" increased by 1.54 per cent to 294.52 during the quarter ended 30—9—1981, while it was 290.06 in the last quarter.

The Index for the Group 'Clothing' also advanced to 233.72 from 230.32 registering an increase of 1.48 per cent.

The Group Index for the "Miscellaneous Items" receded to 244.39 from its last quarter's level of 244.82 registering a fall of 0.18 per cent.

On the whole, the composite Index Number registered an increase of 5.79 per cent and stood at 271.52 during the quarter under review.

10.9. CONSUMER PRICE INDEX NUMBERS FOR RURAL TAMIL NADU.

(1970-71=100.)

<i>Period.</i>	<i>Food.</i>	<i>Fuel and lighting.</i>	<i>Clothing.</i>	<i>Miscellaneous.</i>	<i>Composite Index.</i>
(1)	(2)	(3)	(4)	(5)	(6)
1980—October	224.29	280.64	221.16	229.29	228.25
November	229.43	285.20	223.05	230.74	232.87
December	234.09	289.10	220.58	230.93	236.74
1981—January	235.74	290.18	219.69	234.02	238.33
February	247.56	291.26	222.49	237.39	248.27
March	249.83	291.88	224.25	242.50	250.64
April	251.29	292.58	224.70	244.60	252.04
May	254.83	289.23	225.70	244.23	254.68
June	256.86	290.06	230.32	244.82	256.65
July	263.82	297.55	232.26	245.96	262.90
August	272.40	295.84	235.50	244.48	269.70
September	274.91	294.52	233.72	244.39	271.52

10.10 INDEX NUMBERS OF PARITY.
(1954-55=100)

<i>Year and Months.</i>				<i>Index Number of Prices Received by the Farmer.</i>	<i>Index Number of Prices paid by the Farmer.</i>	<i>Index of Parity.</i>
(1)				(2)	(3)	(4)
1980—October	..	..		472	715	65
November	..	..		493	730	67
December	..	..		513	733	70
1981—January	..	..		559	739	75
February	..	..		587	740	72
March	..	..	..	568	745	76
April	..	..	..	582	752	77
May	..	..	..	596	774	77
June	..	..	..	628	789	80
July	..	..	..	656	813	81
August	..	..	..	651	820	79
September	..	..		637	820	78

XI. TRADE.

The total value of foreign trade through the ports in Tamil Nadu during the Quarter Ended 31—3—1981 was of the order of Rs. 623.3 crores of which exports accounted for Rs. 204.8 crores and imports Rs. 418.5 crores. As compared to corresponding quarter of the previous year there was an increase of 10.9 per cent in exports and 14.2 per cent in imports.

11.1. IMPORTS AND EXPORTS.

<i>Serial number and Name of the Port.</i>						<i>Exports.</i>	<i>Imports.</i>
(1)						(2)	(3)
						(RUPEES IN LAKHS.)	
1.	Madras	..	..	..	..	9,673	34,327
2.	Cuddalore	..	..	..	..	2,105	968
3.	Nagapattinam	..	..	..	..	94	3
4.	Tuticorin	..	..	..	..	521	3,784
5.	St. Thomas Mount (Airport)	..	..	..	..	8,089	2,770
6.	Thiruchirapalli (Airport)	..	..	..	..	..	..
Total ..						20,482	41,852

XII. LABOUR AND EMPLOYMENT.

Employment.—During the quarter ended 30th September 1981 the number of persons who had registered their names with the Employment Exchanges were 1,59,158 as against 1,12,882 in the previous quarter, showing an increase of 41.00 per cent. The number of persons placed in employment through the Employment Exchanges during the quarter under review was 18,965 while it was 17,431 during the previous quarter, registering an increase of 8.80 per cent.

The number of persons on the Live Register at the end of the quarter ended 30th June 1981 and 30th September 1981 were 11,84,371 and 12,80,530 respectively.

12.1. REGISTRATIONS AND PLACEMENTS THROUGH THE EMPLOYMENT EXCHANGES BY DISTRICTS.

Serial number.	Districts.					Number of persons on the Live Register.		
						June 1981.	September 1981.	Percentage Variation.
(1)	(2)					(3)	(4)	(5)
1	Madras	..	.	..	..	2,16,140	2,51,043	+ 16.15
2	Chengalpattu	..	..	..	..	1,01,078	1,00,921	— 0.16
3	South Arcot	..	..	..	..	88,031	92,173	+ 4.71
4	North Arcot	..	..	..	..	62,166	63,157	+ 1.59
5	Salem	..	..	..	..	74,126	92,842	+ 25.25
6	Dharmapuri	..	..	..	..	43,153	45,662	+ 5.81
7	Periyar	..	..	..	..	35,233	37,872	+ 7.49
8	Coimbatore	..	..	..	..	77,619	80,675	+ 3.94
9	The Nilgiris	..	..	..	..	31,207	32,933	+ 5.53
10	Thanjavur	..	..	..	..	80,031	83,569	+ 4.42
11	Tiruchirapalli	..	..	..	..	84,273	89,318	+ 5.99
12	Pudukkottai	..	..	..	..	22,432	23,859	+ 6.36
13	Madurai	..	..	..	..	88,320	96,392	+ 9.14
14	Ramanathapuram	..	..	..	..	55,518	59,763	+ 7.65
15	Tirunelveli	..	..	..	..	73,515	76,530	+ 4.10
16	Kanniyakumari	..	..	..	..	51,529	53,821	+ 4.45
	STATE	..	..	..	..	11,84,371	12,80,530	+ 8.12

12.1. REGISTRATIONS AND PLACEMENTS THROUGH THE EMPLOYMENT EXCHANGES BY DISTRICTS—*cont.*

Serial number.	Districts						Registrations during the quarter ended.		
							June 1981.	September 1981.	Percentage Variation.
(1)	(2)						(6)	(7)	(8)
1	Madras	..	..	..	..	..	20,327	26,191	+ 28.85
2	Chengalpattu	..	..	..	..	..	10,662	12,293	+ 15.30
3	South Arcot	..	..	..	..	..	7,042	9,743	+ 38.36
4	North Arcot	..	..	..	..	..	7,278	10,635	+ 46.13
5	Salem	..	..	..	..	..	6,614	10,617	+ 60.52
6	Dharmapuri	..	..	..	..	..	3,560	5,431	+ 52.56
7	Periyar	..	..	..	..	..	4,012	4,677	+ 16.58
8	Coimbatore	..	..	..	..	..	7,352	11,020	+ 49.89
9	The Nilgiris	..	..	..	..	..	2,173	4,020	+ 85.00
10	Thanjavur	..	..	..	..	..	6,664	8,079	+ 36.24
11	Tiruchirapalli	..	..	..	..	..	6,187	11,757	+ 90.02
12	Pudukkottai	..	..	..	..	..	2,277	3,410	+ 49.76
13	Madurai	..	..	..	..	..	11,942	14,925	+ 24.98
14	Ramanathapuram	..	..	..	..	..	6,553	11,092	+ 69.27
15	Tirunelveli	..	..	..	..	..	7,359	9,284	+ 26.16
16	Kanniyakumari	..	..	..	..	..	2,886	4,984	+ 73.06
	STATE	..	..	..	..	..	1,12,882	1,59,158	+ 41.00

Serial number.	Districts.						Placements during the quarter ended.		
							June 1981.	September 1981.	Percentage Variation.
(1)	(2)						(9)	(10)	(11)
1	Madras	..	..	..	..	..	2,025	3,222	+ 59.11
2	Chengalpattu	..	..	..	..	..	843	994	+ 17.91
3	South Arcot	..	..	..	..	..	1,151	1,769	+ 53.69
4	North Arcot	..	..	..	..	..	1,014	1,158	+ 14.20
5	Salem	..	..	..	..	..	1,482	1,325	- 10.59
6	Dharmapuri	..	..	..	..	..	752	738	- 1.86
7	Periyar	..	..	..	..	..	470	499	+ 6.17
8	Coimbatore	..	..	..	..	..	1,540	1,376	- 10.65
9	The Nilgiris	..	..	..	..	..	430	520	+ 20.93
10	Thanjavur	..	..	..	..	..	1,244	1,349	+ 8.44
11	Tiruchirapalli	..	..	..	..	..	1,309	1,047	- 20.02
12	Pudukkottai	..	..	..	..	..	339	380	+ 12.09
13	Madurai	..	..	..	..	..	1,878	1,732	- 7.77
14	Ramanathapuram	..	..	..	..	..	1,002	1,350	+ 34.73
15	Tirunelveli	..	..	..	..	..	1,613	1,120	- 30.56
16	Kanniyakumari	..	..	..	..	..	339	386	+ 13.86
	STATE	..	..	..	..	..	17,431	18,965	+ 8.80

Plantation Labour.—As on 30th June 1981, there were 333 plantations registered under the Plantations Act in Tamil Nadu comprising of 147 Tea, 147 Coffee, 35 Rubber and 4 Cinchona. Out of these 252 reported statistics relating to employment and their earnings. These comprised of 119 Tea, 105 Coffee, 24 Rubber, 4 Cinchona Estates. During the corresponding quarter in the previous year there were 324 plantations comprising of 142 Tea, 142 Coffee, 36 Rubber and 4 Cinchona. Out of these 240 plantations comprising of 112 Tea, 99 Coffee, 25 Rubber and 4 Cinchona reported statistics.

Tea Plantations.—The total number of workers employed in Tea plantations as at the end of the quarter June 1981 were 62,246. Out of them 56,766 or 91 per cent were permanent workers. During the corresponding quarter in the previous year there were 65,625 workers. Of these 56,765 or 86 per cent were permanent workers. Though the number of permanent workers remained the same, the percentage of permanent workers shows an increase during the quarter under review compared to that of the corresponding quarter of the previous year due to less employment of temporary workers. The average daily attendance of permanent workers during the quarter ended June 1981 was higher compared to the corresponding quarter of the previous year. During the quarter under review, the average daily cash earnings earned by the permanent garden labourers were Rs. 11.71, Rs. 12.19 and Rs. 7.97 for men, women and minors whereas they were Rs. 9.58, Rs. 10.26 and Rs. 6.58 respectively during the quarter ended June 1980. Similar details in respect of other categories of labourers are furnished.

Coffee Plantations.—As on 30th June 1981 the number of workers employed were 8,657 in the coffee plantations as against 8,192 workers during the quarter ended June 1980. Of these 4,040 or 47 per cent were permanent workers in the current quarter as compared to 4,429 or 54 per cent during the quarter ended June 1980. Average daily attendance of permanent workers was 85 per cent in the current quarter as against 81 per cent during the quarter ended June 1980. Average daily cash earnings of the permanent garden labour was Rs. 8.83 for men, Rs. 8.55 for women and Rs. 7.51 for minors as against Rs. 8.00, Rs. 7.92 and Rs. 5.88 respectively during the quarter ended June 1980. Similar details in respect of other categories of labourers are furnished.

Rubber Plantations.—2,270 workers were employed in Rubber plantations during the quarter ended June 1981 as against 1,477 in the quarter ended June 1980. Of these permanent workers were 1,952 or 86 per cent as compared to 1,421 or 96 per cent in the quarter ended June 1980. The average daily attendance of permanent workers was 76 per cent as against 86 per cent during the quarter ended June 1980. During the quarter ended June 1981 the average daily cash earnings earned by the permanent garden labourers were Rs. 12.60 for men and Rs. 11.05 for women whereas they were Rs. 12.57 and Rs. 11.67 respectively during the quarter ending June 1980. Similar particulars in respect of other categories of workers are furnished.

Cinchona Plantations.—During the quarter under review 3,012 workers were employed in Cinchona Plantations as against 2,479 in the quarter ended June 1980, of these 1,913 or 64 per cent were permanent workers as compared to 1,874 or 76 per cent in the quarter ended June 1980. The average daily attendance of permanent workers was 1,674 or 88 per cent in the current quarter where as it was 1,658 or 88 per cent during the quarter ended June 1980. Average daily cash earnings of permanent garden labourers were Rs. 9.38 for men, Rs. 9.02 for women and Rs. 4.48 for minors in the quarter ended June 1981 as against Rs. 9.25, Rs. 9.97 and Rs. 5.00 respectively in the corresponding quarter in the last year. The marginal decrease in the average earnings of women is due to decrease in the wages paid as "other payment" during the quarter ended June 1981 as compared to quarter ended June 1980. It may be noted that no permanent outside workers were employed in Cinchona Plantations in both the quarters ended June 1980 and June 1981. Data in respect of other categories of workers are furnished.

12.2. PERCENTAGE OF AVERAGE DAILY ATTENDANCE OF PERMANENT WORKERS IN PLANTATION

Plantations.	30-6-1980			30-6-1981		
	Total number of permanent workers.	Average daily attendance.	Per- centage.	Total number of permanent workers.	Average daily attendance.	Per- centage.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Tea	56,765	46,787	82	56,766	48,167	85
2 Coffee	4,429	3,568	81	4,040	3,441	85
3 Rubber	1,421	1,228	86	1,952	1,489	76
4 Cinchona	1,874	1,658	88	1,913	1,674	88

12.3. AVERAGE DAILY EARNINGS OF WORKERS IN PLANTATIONS.

Serial number and Category of Plantations and workers.	30-6-1980				30-6-1981			
	Garden labour		Outside labour.		Garden labour.		Outside labour.	
	P	T	P	T	P	T	P	T
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	RS. P.	RS. P.	RS. P.	RS. P.	RS. P.	RS. P.	RS. P.	RS. P.
1 Tea—								
Men	9.58	8.71	9.05	8.48	11.71	11.14	11.45	10.18
Women	10.26	9.23	8.01	8.87	12.19	11.75	11.48	11.03
Minors	6.58	5.83	..	..	7.97	7.79	..	..
2 Coffee—								
Men	8.00	7.00	6.09	5.51	8.83	9.45	6.45	6.17
Women	7.92	7.21	6.42	5.60	8.55	9.26	6.10	6.39
Minors	5.88	3.41	..	5.19	7.57	6.21	..	12.86
3 Rubber—								
Men	12.57	11.10	14.26	12.69	12.60	12.18	14.94	13.51
Women	11.67	10.31	12.51	..	11.05	12.42	14.66	13.29
Minors .. ..	..	5.80	..	..	..	..	..	..
4 Cinchona—								
Men	9.25	7.04	..	7.30	9.38	8.29	..	8.52
Women	9.97	7.04	..	7.22	9.02	8.28	..	8.19
Minors	5.00	3.78	..	4.13	4.48	4.48	..	4.95

T = Temporary.

P = Permanent.